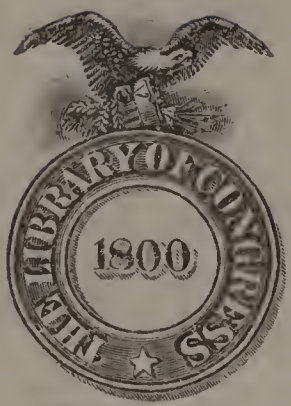
THE BOTTLERS' FORMULARY



THE

Bottlers' Formulary

Practical Recipes, Formulas and Processes
for Making the Soluble Flavors Used
in the Manufacture of

CARBONATED BEVERAGES

Published for the Benefit of Those Bottlers Who Desire
to Put Up First Class Beverages

BY

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PREFACE.

Without doubt the most important feature of the bottling business is the question of good extracts, and the object of this work is to give bottlers such information as will enable them to prepare their own "Soluble Flavors" and thus secure the additional profit, and at the same time produce as good an article as the market affords.

All the recipes contained in this work have been devised by those experienced in business, and have been practically tested by the author, who is confident that there are very few bottlers who will not find herein much that will be of great use and benefit to them.

GENERAL INSTRUCTIONS.

To produce first-class preparations you must use first-class materials.

The oils of Lemon and Orange, more especially should be of the best. The alcohol used should be deodorized alcohol, or at any rate a good cologne spirit of full strength—i. e.—95 per cent. Bear in mind that the lower the degree of spirits in the extract the less essential oil will be taken up by it.

Other ingredients should likewise be of the best obtainable quality.

In making up the formulas pay strict attention to the following rules:

1. Be sure that all graduates, measures, funnels and storage jars are absolutely clean.
2. Be sure to use the exact proportions directed.
3. Always experiment with small quantities at first.
4. Should the first attempt prove unsuccessful, do not condemn the formula, but make another trial, as the fault can generally be traced to a mistake in the manipulation, or an error in the proportion.

As to weights and measures:

When ounces or pounds are mentioned Avoirdupois weight is to be used, grains or drachms, Apothecaries weight, and fluid drachms, fluid ounces, pints or gallons, Wine measure.

Solids by weight and liquids by measure is the uniform rule with all the formulas in this book.

Essences and essential oils should be kept in a cool, dark place and must never be left uncorked.

UNITED STATES WEIGHTS AND MEASURES.

(According to existing standards.)

Avoirdupois Weight.

27.34 grains (Troy)	=	1 drachm
16 drachms	=	1 ounce
16 ounces	=	1 pound

All chemicals are sold by avoirdupois weight.

Apothecaries Weight.

20 grains	=	1 scruple	=	20 grains
3 scruples	=	1 drachm	=	60 grains
8 drachms	=	1 ounce	=	480 grains
12 ounces	=	1 pound	=	5760 grains

Wine or Fluid Measure.

60 minims	=	1 Fluid drachm
8 drachms	=	1 Fluid ounce
16 ounces	=	1 Fluid pint
8 pints	=	1 gallon

The above weights and measures are usually adopted in formulas.

Sixteen ounces or a pint, is sometimes called a fluid pound.

ACIDULANTS.

One cannot too strongly deprecate the use of the numerous liquid acids offered by various houses under fancy and high-sounding names. Citric and Tartaric acids being the natural constituents of fruits cannot be excelled in wholesomeness or flavor. The chief inducement to bottlers to use acids other than citric or tartaric is the economy supposed to be effected; this is more apparent than real. Bottlers who are compelled to use hard water containing lime will invariably experience trouble from the formation of deposits, when using these cheap liquid acids, most of which contain some form of phosphoric acid which causes a precipitate of calcium phosphate—an insoluble salt—to form in the bottle.

CITRIC ACID SOLUTION.

4 lbs. Citric Acid Crystals.
4 pts. boiling water.

When dissolved pass through paper filter, using glass funnel. Keep in glass and avoid contact with metal.

TARTARIC ACID SOLUTION.

4 lbs. Tartaric Acid Crystals.
4 pts. boiling water.

Treat same as Citric Acid.

MIXED ACID SOLUTION.

2 lbs. Citric Acid Crystals.
2 lbs. Tartaric Acid Crystals.
4 pts. boiling water.

Treat in same manner.

PHOSPHORIC ACID SOLUTION.

4 lbs. Syrupy Phosphoric Acid 85%.
Cold water to make one gallon.

Stand over night and filter through paper.

Mix acids in stone jar. Keep in glass bottles.

These solutions, made and filtered as directed and kept in well corked bottles, will not spoil.

The first in importance and popularity of carbonated drinks is Lemonade, generally termed Lemon Soda.

(No. 1.) Soluble Lemon Extract.

Oil of Lemon (fresh) .....14 oz.
Cologne Spirits. .....½ gal.
Glycerine. . .....6 Fl. oz.
Water (hot). . .....½ gal.

Mix the oil of lemon and 3¾ pints of the cologne spirits together in a half-gallon bottle and shake for 15 minutes.

Add the glycerine and shake again.

Into a two-gallon bottle (warm) put ½ gallon of hot water.

Add the mixture of oil of lemon, cologne spirits and glycerine; shake or roll *constantly* for *two* hours, not allowing the ingredients to separate.

Let stand 24 hours.

Introduce a rubber tube and syphon (draw off) the extract from beneath the undissolved oil.

Add the 4 ounces of cologne spirits left over from the ½ gallon.

Filter through filter paper and bottle for future use.

Use great care in separating the extract from the oil, as, if you leave small globules of the oil, the extract will not be clear. If the least cloudy, filter through a small amount of powdered pumice stone.

The oil that is left is good for commercial purposes, and could be used again for making extracts, but it is best to dispose of it to candy manufacturers or bakers. It should bring from 60c to 80c per pound, according to the market price of the oil.

Use 1 oz. of this extract to 1 gallon of syrup.

The following is considered by the writer to make an ideal lemon soda:

Syrup. . . . . 1 gal.
Soluble Lemon (No. 1) . . . . . 1 oz.
Citric Acid Solution. . . . . 2 oz.

Certain localities demand a sharp acidulated lemon soda, while in others a sweet beverage, with a heavy heading is preferred. In the North a colored lemon soda is unknown, but some manufacturers in the South tint their lemon with a trace of yellow color.

(No. 2) Lemon Fortified With Citral.

To
3½ pints Alcohol, add
10 oz. Oil Lemon,
½ oz. Citral,
1 oz. Oil Bergamot,
1 oz. Oil Limes.

Agitate and stir thoroughly, and add
8 oz. Glycerine,
4 pints Boiling Water.

Constant agitation until cool. Syphon off as directed in preceding formula.

In manufacturing Lemon Extract in larger quantities a churn is used, run by power, and the agitation of the lemon and alcohol is continued for many hours. A prominent bottlers' supply house, who have an extensive

sale on a one ounce lemon extract, use a copper, block tin-lined churn with a close-fitting rubber cap at the top —to prevent evaporation—and a faucet at the bottom; running through the center is a well-tinned gun-metal paddle operated by geared wheels and fitted with fast and loose pulleys.

While the firm mentioned advertise a pure lemon extract—a considerable amount of citral is used. Here is their process:

(No. 3) One Ounce Lemon Extract.

Put in churn
30 lbs. Oil of Lemon,
8 oz. Citral,
16 gal. Cologne Spirits,
Mix and work 2 hours in churn.
After this add 11 gallons hot water.

Add water a gallon at a time, work churn, stop, add more water, churn and continue—adding a gallon at a time till the full 11 gallons are used.

The water must be boiling hot. Put the rubber cap on the churn, so that the alcohol will not evaporate. After working churn thoroughly for one hour, add 3 gallons of cold water. Put on cap and run churn ten hours.

Then add
$1\frac{1}{2}$ gals. Cologne Spirits.

After standing one hour, take out all of the product and filter it. Let stand a while for oil to go to the top. Then syphon extract from the bottom and filter through heavy French filter paper, or a Kiefer filter.

If a pure lemon is desired, instead of the citral, use more oil of lemon.

Some bottlers make a soluble extract, using a smaller proportion of oil of lemon and using a greater amount of the extract to a gallon.

(No. 4) Soluble Essence of Lemon.

Oil of Lemon.....7 oz.
Alcohol.....½ gal.
Water.....½ gal.

Cut the oil with powdered pumice and some sugar in a mortar; work with pestle to a smooth paste; add by degrees the alcohol, mix and put in gallon bottle, then add water gradually, shake well and filter and refilter through paper, till bright.

Of this, use as follows:

Syrup.....1 gal.
Soluble Lemon Extract.....3 oz.
Citric Acid Solution.....2 oz.

(No. 5) Soluble Lemon With Citral.

Oil of Lemon.....6 oz.
Citral.....½ oz.
Glycerine.....12 oz.
Alcohol.....48 oz.
Oil of Limes.....1 oz.
Water.....60 oz.

Add a little powdered pumice and filter and refilter until bright. Use as follows:

Syrup.....1 gal.
Lemon and Citral Extract.....1½ to 2 oz.
Citral Acid Solution.....2 oz.

The author offers no suggestions as to the use of foam. Some localities demand a soda without foam, others want as much foam on a glass of soda as is on a freshly drawn glass of beer.

Either of the lemon formulas will give the user a good lemon soda, but the first formula (No. 1), though taking a little more time to make, will prove the most satisfactory.

TERPENELESS OIL.

Of late years a great many manufacturers have successfully used the Terpeneless Oils of Lemon and Orange. These Terpeneless Essential Oils are not, as is sometimes supposed, artificial products; they are the natural oils freed, by a patented process, from the terpenes.

The solutions of Terpeneless Oils are clear and free from cloudiness, making them ready for immediate use. Their high concentration offers a saving in transportation, and in consequence of their high percentage of oxygen, they impart the most delicate aroma.

We append formulas:

(No. 6) Bottlers Terpeneless Lemon Extract.

Haensel's Terpeneless Oil Lemon.....2 oz.
Cologne Spirits (188 proof).....3 qt.
Water. . .....1 qt.

This gives one gallon clear lemon extract. Of this use 1 ounce to 5 gallons syrup.

(No. 7) Bottlers Terpeneless Lemon Extract.

Haensel's Terpeneless Oil Lemon.....¼ oz.
Cologne Spirits. .....1 qt.
Water. . .....3 qt.
Magnesia. . .....2 oz.

Filter through filter paper.

Of this use 1 ounce to 1 gallon syrup.

(No. 8) Extract of Blood Orange.

Oil of Sweet Orange. .....14 oz.
Cologne Spirits. .....½ gal.
Glycerine. . .....6 Fl. oz.
Water (hot). .....½ gal.

Treat the same as the Soluble Extract of Lemon (No. 1) in every particular.

Use 1 to 2 ounces of this extract to a gallon of syrup.

TINCTURES OF LEMON AND ORANGE.

(No. 9) Lemon Tincture.

Take fresh lemon peel sliced thinly.....50 oz.
Alcohol 188 proof.....78 oz.
Water. . .....50 oz.

Choose lemons with bright, thick skins, and as green as possible, provided the fruit is sound and well-developed. Peel the lemons in such a way as to obtain as much of the yellow and as little of the white as possible. One dozen thin peels from average sized lemons should weigh about nine ounces.

Macerate the thin peels in the spirit and water for four days, with occasional agitation. Then pour it off and let precipitate. This tincture will be almost soluble (quite sufficiently soluble for all practical purposes), if care be taken to choose fresh green fruit, avoiding that which is dry or overripe.

LEMON SODA.

Plain Syrup. . .....1 gal.
Lemon Tincture. .....4 Fl. oz.
Citric Acid Solution. .....1½ to 2 oz.

(No. 10) Orange Tincture.

Follow the process given for lemon tincture, using fine oranges instead of lemons.

Use 4 to 6 ounces to one gallon of syrup.

A Milwaukee firm has in the past 15 years built up a large trade on an Orange Tincture, used mostly for a still orange cider.

Following is their process:

(No. 11) Soluble Orange Flavor.

Pare 150 dozen (15 cases) oranges.
Divide into two equal portions.
Put into two open barrels.

Cover each portion of peel with 18 gallons 188 proof alcohol.

Stir well every day for four days.

See that peels are thoroughly covered.

Draw off menstruum and press out peels.

Combine the liquid from both barrels in one large barrel, and add water to make 50 gallons.

Let stand a week and draw off.

To each 10 gallons add 1 ounce Terpeneless Oil of Orange.

SOLUBLE ORANGE FLAVOR.

Directions for use (Still Process):

For 10 gallons cider, take 10 pounds Granulated Sugar, 5 to 7 ounces Orange Flavor, 5 to 6 ounces Tartaric Acid Solution, and water to make 10 gallons. Color with Orange Color.

For Carbonating:

Syrup. . . . . 1 gal.
Tartaric Acid Solution. . . . . 2 to 3 ozs.
Color and foam to suit.

There are several lemon and orange parers on the market which can be adjusted for very thin paring and do the work very rapidly.

SARSAPARILLA.

Next to Lemon Soda, in popularity, comes Sarsaparilla. While it is one of the oldest drinks in the bottlers' list, the name Sarsaparilla is a misnomer. The commercial essence, or extract as it is called, sold to bottlers, or prepared by them, is a compound of the Oils of Sassafras, Wintergreen, Anise and Orange. There are numberless formulas of which the following is about the best:

(No. 12) Extract of Sarsaparilla.

Oil of Wintergreen	4 oz.
Oil of Sassafras	4 oz.
Oil of Anise	1 oz.
Cologne Spirits	5 pt.
Powdered Pumice Stone	4 oz.
Granulated Sugar	8 oz.
Water	2½ pt.
Sugar Color	1 oz.

Dissolve the oils in TWO PINTS of the spirits. Each oil must be added separately and well shaken with the spirits BEFORE another oil is added.

Now put the pumice stone and sugar in a Wedgwood mortar, add the mixture gradually and rub together to a paste.

Mix the remainder of the spirits and the water together, add the sugar coloring to these, and dissolve carefully.

Mix the whole together gradually, stirring well until all combines, and filter through filter paper.

Use one ounce of this extract to one gallon of syrup.

Under the new Pure Food Laws, it will only be a question of time when Sarsaparilla Soda can no longer be called by that name unless it contains an appreciable amount of the drug.

The two following formulas in combination will give a very pleasing drink and allow the bottler who uses it to call his beverage "Sarsaparilla":

(No. 13) Fluid Extract of Sarsaparilla.

Sarsaparilla Root (powdered)	2 lbs.
Mix:	
Glycerine	8 oz.
Alcohol	12 oz.
Water	24 oz.

Moisten the root with 16 fluid ounces of this menstruum, pack closely in a percolator, then add enough menstruum to saturate the powder and leave a stratum above it. When the liquid begins to drop from the percolator, close the lower orifice, closely cover the

percolator, and let macerate for forty-eight hours. Then allow the percolation to proceed, gradually adding the balance of the menstruum, and afterwards alcohol and water, in the proportion of one ounce of alcohol to two ounces of water, until the Sarsaparilla is exhausted and 40 ounces of extract is obtained.

(No. 14) Soluble Essence of Sarsaparilla.

Oil of Wintergreen. . . . . 2 Fl. oz.
Oil of Sassafras. . . . . 2 Fl. oz.
Oil of Anise. . . . . 1 Fl. oz.
Oil of Orange. . . . . 2 Fl. oz.
Alcohol. . . . . .64 Fl. oz.
Water. . . . . .64 Fl. oz.

Cut or triturate the oils with sugar and pumice stone; add gradually the alcohol, agitating till all is dissolved; then add by degrees the water. Agitate and filter and refilter till bright.

(No. 15) Compound Sarsaparilla Extract.

Fluid Extract of Sarsaparilla (No. 13) . .64 Fl. oz.
Essence of Sarsaparilla No. 14) . . . . . .36 Fl. oz.
Use as follows:
Syrup. . . . . .1 gal.
Comp. Sarsaparilla Ex. . . . . .4 to 5 oz.
Citric Acid Solution. . . . . .1 to 2 oz.
Add foam and color to suit.

(No. 16) Root Beer Extract.

No. 1.

Oil of Sassafras. . . . . .2½ Fl. oz.
Oil of Wintergreen. . . . . .2½ Fl. oz.
Oil of Sweet Orange. . . . . .2 Fl. oz.
Amyl Butyrate. . . . . .2 Fl. oz.
Oil of Spruce. . . . . ½ Fl. oz.
Oil of Cloves. . . . . .2 drachms
Oil of Anise. . . . . .2 drachms
Alcohol. . . . . .7 pt.
Water. . . . . .2 pt.

Add the oils one at a time, to the alcohol, shake well, add the 2 pints of water and filter through pumice. Use 1½ ounces to gallon of syrup.

(No. 17) Root Beer Extract.

No. 2.

Oil of Sassafras	5 Fl. oz.
Oil of Peppermint	½ Fl. oz.
Oil of Tar	10 drops
Oil of Cinnamon	10 drops
Carbonate of Magnesium	4 Av. oz.
Alcohol	½ gal.
Water	½ gal.

Use to—

Syrup	1 gal.
Extract	1½ Fl. oz.
Sugar Color	2 Fl. oz.

(No. 18) World's Fair Root Beer Extract.

No. 3.

Fluid Extract of Sarsaparilla	4 Fl. oz.
Fluid Extract of Wild Cherry	4 Fl. oz.
Fluid Extract of Yellow Dock	4 Fl. oz.
Fluid Extract of Wintergreen	4 Fl. oz.
Oil of Coriander	2 Fl. oz.
Oil of Lemon	1 Fl. oz.
Oil of Sassafras	1 Fl. oz.
Carbonate of Magnesium	6 Av. oz.
Sugar Color	6 Fl. oz.
Cologne Spirits	½ gal.
Water	½ gal.

Dissolve the oils in the alcohol, rub the carbonate of magnesium with the water, add the fluid extracts and

sugar color, then add the mixture to the solution, and after standing a few days with occasional agitation, filter.

Use—

Syrup	1 gal.
Extract	3½ Fl. oz.
Acid Solution	½ Fl. oz.
Sugar Color	1 Fl. oz.

(No. 19) Tonic Beer Extract.

Oil of Sassafras	2½ Fl. oz.
Oil of Wintergreen	2½ Fl. oz
Oil of Orange	2 Fl. oz.
Oil of Cloves	1½ Fl. drm.
Oil of Anise	1 Fl. drm.
Alcohol 95 per cent.	½ gal.
Water	½ gal.

Dissolve the oils in the alcohol, adding by degrees the water; filter through pumice and color with sugar color.

(No. 20) Birch Beer Extract.

No. 1.

Oil of Wintergreen	1 Fl. oz.
Oil of Sassafras	8 Fl. oz.
Oil of Cassia	1 Fl. oz.
Cologne Spirits	½ gal.
Water	½ gal.

Add the oils, *one at a time,* to the cologne spirits and shake the mixture well before adding the next ingredient. Color with 1 ounce of sugar color.

Add an equal amount of hot water, and set aside to cool.

Remove any oil floating on top, and filter through 1 ounce of magnesia or powdered pumice stone.

Use 1 ounce of this extract to 1 gallon syrup.

(No. 21) Birch Beer Extract.

No. 2.

Oil of Birch. . . . . 8 Fl. oz.
Powdered Carb. Magnesia. . . . . 6 Av. oz.
Alcohol. . . . . 32 Fl. oz.
Water. . . . . 96 Fl. oz.

Take ingredients in order named. Agitate frequently for 5 hours. Filter and pass through filter enough alcohol and water in above proportions to give 1 gallon of the finished product.

Use—

Syrup. . . . . 1 gal.
Extract. . . . . 2½ Fl. oz.
Acid Solution. . . . . ½ Fl. oz.
Foam to suit.
Color a port wine color.

(No. 22) Spruce Beer Extract.

Oil of Hemlock, pure (Oil of Spruce) . . . . 2 Fl. oz.
Oil of Lemon. . . . . 1 Fl. oz.
Oil of Wintergreen. . . . . 2 Fl. drm.
Oil of Sassafras. . . . . 2 Fl. drm.
Magnesium Carbonate. . . . . 4 Av. oz.
Alcohol 95 per cent. . . . . 80 Fl. oz.
Water. . . . . 48 Fl. oz.

Dissolve the oils in the alcohol, triturate the magnesium with the water, add the alcoholic solution, let stand for several days, agitate occasionally and filter.

Use 1 ounce extract, with foam and color to suit to each gallon of syrup.

(No. 23) Sassafras Beer.

Oil of Sassafras. . . . . 10 Fl. oz.
Alcohol. . . . . ½ gal.
Water. . . . . ½ gal.

Shake well, let stand over night, when extract will rise above oil. Syphon off extract with rubber hose, leaving excess of oil for next batch. Filter through pumice.

Use to—

Syrup	1 gal.
Extract Sassafras	4 Fl. oz.
Extract of Limes	2 Fl. oz.
Acid Solution	4 Fl. oz.
Sugar Color	½ Fl. oz.

In Texas, where "Sassafras Beer" is much in vogue, they use the following process, which gives very satisfactory results:

(No. 24) Sassafras Beer Extract.

Oil of Sassafras	8 Fl. oz.
Alcohol 95 per cent.	56 Fl. oz.

(No. 25) Sassafras Beer Acid.

Citric Acid	3 lbs.
Tartaric Acid	2 lbs.
Boiling Water	3 qt.

Steep 4 ounces of sarsaparilla root in 1 quart of boiling water for 1 hour. Strain and add 2 ounces phosphate of iron. When dissolved, add to the acid solution.

Use to—

Syrup	1 gal.
Sassafras Extract (No. 24)	1 Fl. oz.
Sassafras Acid (No. 25)	3 Fl. oz.
Sugar Color	¼ Fl. oz.

(No. 26) Extract Strawberry.

Oil of Strawberry	1 pt.
Cologne Spirits	3 pt., 4 oz.
Water (distilled preferred)	3 pt., 4 oz.
Red Fruit Color	¼ oz.

Mix the cologne spirits and water.

Add the oil of strawberry, lastly adding the red coloring, and shake well.

Allow to stand 24 hours, shaking occasionally, then filter.

Use 1 ounce of this extract to 1 gallon syrup.

(No. 27) Oil of Strawberry.

Nitrous Ether.	1 Fl. oz.
Acetic Ether.	10 Fl. oz.
Formic Ether.	1 Fl. oz.
Butyric Ether.	10 Fl. oz.
Amyl Acetic Ether.	1 Fl. oz.
Amyl. Butyric Ether.	2 Fl. oz.
Glycerine.	8 Fl. oz.
Extract Verona Orris Root	6 pt.

Mix, adding cologne spirits, *one article at a time,* in the order named, and shake well *before adding* the next ingredient.

Allow to stand 24 hours, shaking occasionally. Then filter through paper.

(No. 28) Extract of Verona Orris Root.

Granulated Verona Orris Root	5 lbs.
Cologne Spirits.	2½ gal.

Moisten the orris root with cologne spirits, and pack in a percolator.

Cork up the bottom of the percolator.

Add 2 pints of the spirits. Cover the percolator as tightly as you can.

Allow to stand 24 hours.

Then remove the cork from percolator, add the balance of spirits and percolate until 2 gallons and 1 pint of the extract is obtained.

A prominent Chicago supply house, who have a large sale on strawberry, use the following process:

(No. 29) Strawberry Extract.

Acetic Ether.	8 Fl. oz.
Butyric Ether.	20 Fl. oz.
Acetate of Amyl.	32 Fl. oz.
Oil Wintergreen.	13 Fl. drm.

Oil Rose d'Or. . . . . 6½ Fl. drm.
Oil Boise de Rose, Femelle. . . . . 6½ Fl. drm.
Tincture of Orris. . . . . 13 pts.
Alcohol 95 per cent. . . . . 18 gal.
Water. . . . . 18 gal.
Use 1 ounce to 1 gallon syrup.

(No. 30) Tincture of Orris.

(Use in above formula.)

Granulated Orris Root. . . . . 55 lbs.
Alcohol. . . . . 6¾ gal.
Soak 8 days and percolate, adding water through percolator to make 15 gallons.

(No. 31) Extract of Apple.

(For making cider.)

Oil of Apple. . . . . 1 pint.
Cologne Spirits . . . . . 3½ pints.
Water. . . . . 3½ pints.
Orange Flower Water. . . . . 4 oz.
Mix the oil of apple with the cologne spirits, add water gradually, let stand a few hours and filter through paper.
Use 1 ounce of this extract to 1 gallon syrup.

(No. 32) Oil of Apple.

Chloroform. . . . . 1 Fl. oz.
Nitrous Ether. . . . . 1 Fl. oz.
Acetic Ether. . . . . 1 Fl. oz.
Amyl Valerianic Ether. . . . . 10 Fl. oz.
Glycerine. . . . . 4 Fl. oz.
Cologne Spirits. . . . . 100 Fl. oz.
Tincture of Orris (No. 25). . . . . 16 Fl. oz.
Orange Flower Water. . . . . 16 Fl. oz.
Add the ethers to the cologne spirits *one at a time,* in the order named, and shake the mixture well *before adding* the next.
Add the tincture of orris and orange flower water. Shake until the whole is thoroughly mixed.

(No. 32) Oil of Apple.

Oil of Pineapple	1 pint.
Cologne Spirits	3 pints.
Distilled Water	3 pints.
Yellow Color	¼ Fl. oz.

Mix the cologne spirits with the water.

Add to the mixture the oil of pineapple, and shake thoroughly.

Add to this the yellow coloring, mixing it well.

Use 1 ounce of this extract to 1 gallon syrup.

(No. 34) Oil of Pineapple.

Chloroform	4 Fl. oz.
Butyric Ether	20 Fl. oz.
Amyl Butyric Ether	40 Fl. oz.
Glycerine	12 Fl. oz.
Cologne Spirits	50 Fl. oz.

Mix with the cologne spirits the other ingredients, *one at a time*, in the order named. Shake the mixture well, each time, *before* adding another.

(No. 35) Extract of Wild Cherry.

Oil of Wild Cherry	½ pt.
Distilled Water	½ gal.
Cologne Spirits	½ gal.
Red Coloring	¼ Fl. oz.

Mix water and cologne spirits.

Add to the mixture the oil of wild cherry, adding the coloring, and shake thoroughly.

Use 1 ounce of this extract to 1 gallon syrup.

(No. 36) Oil of Wild Cherry.

Acetic Ether	10 Fl. oz.
Benzoic Ether	5 Fl. oz.
Oil of Bitter Almonds	5 Fl. oz.
Amyl Valerianic Ether	2 Fl. oz.
Benzoic Acid	2 Fl. oz.
Glycerine	8 Fl. oz.
Cologne Spirits	6 pints.

Mix the ingredients by adding *one at a time*, in the order named, to the cologne spirits. Shake the mixture well, each time, *before* adding the next article.

(No. 37) Extract of Raspberry.

Oil of Raspberry	1 pint.
Distilled Water	3½ pints.
Cologne Spirits	3½ pints.

Mix spirits and water.

Color, if desired, with a little red color.

Add to the mixture the oil of raspberry and shake well.

Use 1 ounce of this extract to 1 gallon syrup.

(No. 38) Oil of Raspberry.

Nitrous Ether	4 Fl. oz.
Acetic Ether	20 Fl. oz.
Butyric Ether	4 Fl. oz.
Benzoic Ether	4 Fl. oz.
Amyl Acetic Ether	4 Fl. oz.
Amyl Butyric Ether	4 Fl. oz.
Glycerine	16 Fl. oz.
Extract of Orris Root	50 Fl. oz.

To the orris root add other ingredients, one at a time, in the order named. Shake the mixture thoroughly, each time, before adding the next.

A flavor for still drinks, sold to a considerable extent in Wisconsin, Minnesota and Michigan, known as "Raspberry Wine Flavor," and used mostly for still drinks, is prepared as follows:

(No. 39) Raspberry Wine Flavor.

(From the fruit.)

Pure Raspberry Juice	15 gal.
Alcohol 95 per cent	3 gal.
Tincture of Orris	16 gal.

(No. 40) Tincture of Orris.

Orris Root Granulated. . . . . 110 lbs.
Alcohol. . . . . 13½ gal.

Let stand 24 hours. Percolate, adding water through percolator to make 25 gallons.

Directions: To make 10 gallons by the still process: Sugar 16 pounds, enough water to make 10 gallons; add 8 ounces raspberry wine flavor, 5 ounces citric acid solution, red fruit coloring to suit, strain and fill into kegs or bottles.

(No. 41) Extract of Champagne Cider.

Extract of Pineapple. . . . . 1 pint.
Extract of Strawberry. . . . . 1 pint.
Extract of Tonka or Cumarin. . . . . ½ pint.
Extract of Apple. . . . . 1 pint

Mix the extracts, adding one at a time, in the order named, and shake well before adding the next.

Color with ½ ounce of sugar color.

Use 1 ounce to gallon syrup.

(No. 42) Extract of Tonka Bean.

Tonka Beans. . . . . 1 lb.
Distilled Water. . . . . ½ gal.
Cologne Spirits. . . . . ½ gal.

Mix the spirits and water.

Grind the tonka beans to a coarse powder.

Macerate (soak) the powder in ½ gallon of the mixture for 14 days.

Filter through a percolator, adding the remaining ½ gallon of the mixture, gradually, through the percolator.

This can be more easily prepared and fully replaced by a solution of cumarin prepared as follows:

(No. 43) Cumarin Flavor.

Cumarin. . . . . ¼ oz.
Distilled Water. . . . . ½ gal.
Cologne Spirits. . . . . ½ gal.

(No. 44) Tincture of Pimento (Allspice).

Allspice (Pimento). . . . . 8 oz.
Cologne Spirits. . . . . 16 Fl. oz.
Distilled Water. . . . . 16 Fl. oz.

Mix the spirits and water.

Bruise the pimento to a coarse powder and macerate (soak) in ½ the mixture for 48 hours.

Filter through a percolator, adding the remainder of the mixture, gradually, through the filter.

(No. 45) Essence of Rose.

Oil of Rose. . . . . 1 Fl. drm.
Cologne Spirits. . . . . 8 Fl. oz.
Distilled Water. . . . . 8 Fl. oz.
Powdered Pumice Stone. . . . . 1 Av. oz.
Powdered Sugar. . . . . ½ Av. oz.

Rub up the oil of rose with powdered pumice stone and sugar, in a mortar, until thoroughly triturated and absolved, then add the water gradually and agitate.

Continue to agitate, and filter and refilter till bright.

By using a fraction of rose geranium instead of oil of rose, a cheaper essence is obtained.

(No. 46) Essence of Rose.

Oil of Rose. . . . . 1 drm.
Glycerine. . . . . 60 Fl. oz.

Keep in a warm place until the rose is entirely dissolved.

Four ounces of this essence equals 4 drops oil of rose.

(No. 47) Extract of Club Soda.

Oil of Pineapple (No. 33). . . . . 1 pt.
Extract of Tonka (No. 42). . . . . 4 pt.
Tincture of Pimento (No. 44). . . . . ½ Fl. oz.
Essence of Rose (No. 45). . . . . 4 Fl. oz.
Cologne Spirits. . . . . 1½ pt.
Distilled Water. . . . . 1½ pt.

Mix the ingredients, one at a time, in the cologne spirits, and shake the mixture well before adding another.

Add the water and shake thoroughly.

Allow to stand 24 hours before using, agitating occasionally.

Use to 1 gallon of syrup—

Extract of Club Soda.....3 oz.
Red Color.....1 oz.
Acid Solution.....1½ to 2 oz.

GINGER AND CAPSICUM.

(No. 48) Fluid Extract of Ginger.

Coarsely Powdered Ginger Root.....2 lbs.
Alcohol 95 per cent sufficient.

Moisten the powder with a few ounces of alcohol of 95 per cent and pack firmly in a percolator, then add enough alcohol of the same strength to saturate the powder and leave a stratum above it. When the liquid begins to drop from the percolator, close the lower orifice, and having covered the percolator, macerate for 48 hours. Then allow the percolation to proceed, gradually adding more alcohol until the ginger is exhausted and 32 fluid ounces is obtained. Repercolate.

This extract is not soluble or miscible in water; to prepare a water soluble extract suitable for carbonated beverages, proceed as follows:

(No. 49) Soluble Extract of Ginger.

1.

Fluid Extract of Ginger.....1 pt.
Powdered Pumice Stone.....4 Av. oz.
Distilled Water.....2 pt.

Pour the fluid extract into a gallon bottle and add to it the pumice. Shake well at intervals for several hours, then slowly add the water in portions of about 4 fluid ounces at a time, shaking well each time.

Let stand 24 hours and filter through paper, and upon the mass in the filtrate pour water until 3 pints are obtained.

(No. 59) Soluble Extract of Ginger.

2.

Coarsely Powdered Ginger Root.....2 lbs.
Powdered Pumice Stone. .....3 oz.
Alcohol, 95 per cent.....Q. S.
Water Sufficient.

Moisten the ginger with the alcohol. Pack firmly in percolator, first corking the outlet, and pour on 2 pints of alcohol. Cover the percolator to prevent evaporation and let stand 48 hours. Then remove the cork and let the percolation proceed, gradually adding the remainder of the alcohol. After this is nearly passed, pour on water in small quantities until one gallon of extract is obtained.

To this add the pumice, agitate, and filter and refilter until bright.

1.

(No. 51) Tincture of Capsicum.

Capsicum, powdered. .....8 Av. oz.
Alcohol, 95 per cent.....2 pt.

Macerate for 24 hours, decant and pack the moistened capsicum in a percolator, and gradually pour the liquid upon it and add more alcohol until two pints of the tincture are obtained.

2.

(No. 52) Tincture of Capsicum.

Capsicum Pods. .....3½ lbs.
Alcohol, 95 per cent. .....6 pt.
Water. .....2 pt.

Put in closed vessel with alcohol and water.

Let stand for 14 days, stirring occasionally, then take out, press and filter through paper.

GINGER ALE.

Ginger ale extract can be made either from the ginger root, or an oil obtained from the root, to which various additions are made to enhance and enrich the taste and aroma. The principal additions are essences of lemon, orange, limes, rose, vanilla, oenanthic ether and tincture of capsicum. The last named is principally used to give a fictitious strength, so that a smaller quantity of the extract can be used.

Great diversity exists among the formulas for this preparation and a number are herewith presented.

1.

(No. 53) "Tiger" Ginger Ale Extract.

(To be used in the proportion of 1 ounce to 1 gallon of syrup.)

Ginger in moderately fine powder.....6 lbs.
Capsicum in fine powder.....2½ lbs.
Alcohol, a sufficient quantity.

Mix, moisten the powder with 3 pints of alcohol, and set aside in a suitable vessel for 4 hours. Then pack the powder firmly in a cylindrical percolator, and percolate with alcohol until 6 pints of extract are obtained.

Set this mixture aside and label Percolate No. 1. Then continue the percolation with 1½ pints of alcohol mixed with 1½ pints of water. Set the resultant tincture aside, and label Percolate No. 2.

Add to Percolate No. 1—

Oleo-Resin Ginger.....5 Fl. oz.

Then take—

Oil of Lemon.....1½ Fl. oz.
Oil of Cinnamon.....1 Fl. oz.
Oil of Geranium.....½ Fl. oz.
Magnesium Carbonate.....8 Av. oz.

Triturate the oils with the magnesia, add gradually to Percolate No. 2 and set aside. Then place Percolate No. 1 in a large bottle, add 3¼ pounds of finely powdered pumice stone, and shake at intervals of half an hour for 6 hours. This being completed, add the mixture of oils

(Percolate No. 2), and later 10 pints of water, in quantities of ½ pint at a time, shaking vigorously after each solution. Let the mixture stand for 24 hours, shaking it at intervals, and then pass it through a double filter. Finally add enough water through the filter to make the produce measure 3 gallons.

2.

(No. 54) "Standard" Ginger Ale Extract.

(To be used in proportion of 3 ounces to 1 gallon of syrup.)

Ginger in moderately Fine Powder.....8 lbs.
Capsicum in moderately Fine Powder.....2 lbs.
Alcohol, 95 per cent q. s.

Mix, moisten with alcohol, and set aside as in the preceding formula; then percolate with alcohol until 10 pints of extract are obtained.

To this add—

Oleo-Resin of Ginger.....3 drm.

and place in a large bottle. Add 2½ pounds of powdered pumice stone and shake at intervals for 6 hours. Then add 14 pints of water in quantities of 1 pint at a time, shaking well after each addition. Set the mixture aside for 24 hours, agitating at intervals.

Then take—

Oil of Lemon.....1½ Fl. oz
Oil of Geranium.....½ Fl. oz.
Oil of Cinnamon.....3 Fl. drm.
Magnesia Carbonate.....3 Av. oz.

Rub these in a mortar with the magnesia, and add 9 ounces of the clear portion of the ginger mixture mixed with two ounces of alcohol, rubbing the mixture until it becomes smooth. Prepare a double filter, and filter the ginger mixture, adding through the filter the mixture of oils and magnesia. Finally add enough water through the filter to make the final product measure 3 gallons.

If these formulas are properly manipulated the extract should keep for a reasonable length of time without a precipitate. If, however, a precipitate occur after the extract has stood for a week, it should be refiltered.

3.

(No. 55) "Imperial" Ginger Ale Extract.

(To be used in the proportion of 2 ounces to 1 gallon of syrup.)

Oil of Ginger	24 Fl. oz.
Oil of Capsicum	6 Fl. oz.
Oil of Limes	30 Fl. oz.
Oil of Lemon	24 Fl. oz.
Oil of Cassia	1½ Fl. drm.
Oil of Rose	30 min.
Oil of Cloves	1½ Fl. drm.
Alcohol, 95 per cent	5½ gal.
Water	6½ gal.

Let stand 48 hours. Filter through French filter paper or a Karl Kiefer filter.

(No. 56) "Polo" Ginger Ale Extract.

(To be used in proportion of 4 ounces to 1 gallon of syrup.)

Oil of Ginger (Martin's)	100 Fl. oz.
Oil of Ginger, white	8 Fl. oz.
Alcohol	11 gal.
Soluble Orange Extract	4¾ gal.
Soluble Lemon Extract	1½ gal.
Extract of Limes	3 pt
Hot Water	14 gal

Agitate at intervals for 24 hours.

Filter through paper or a Karl Kiefer filter.

(No. 57) Extract of Limes.

(Used in above.)

Oil Limes	6 Fl. oz.
Alcohol, 95 per cent	½ gal.
Distilled Water	½ gal.

(No. 58) "XXXX" Ginger Ale Extract.

Oleo-Resin Ginger . . . . . 60 Fl. oz.
Oil of Lemon . . . . . 2½ Fl. oz.
Essence of Rose (No. 45) . . . . . 10 Fl. oz.
Carbonate of Magnesia . . . . . 40 Av. oz.
Alcohol, 95 per cent . . . . . 5 gal.

Mix the ginger, lemon and magnesia with a little alcohol. Stir to a smooth paste, add balance of the alcohol, then add the essence of rose. Let stand for 24 hours, agitate frequently.

Then add—

Distilled Water . . . . . 5 gal.

Let stand 3 days, with frequent agitation.

Filter through paper.

Use to—

Syrup . . . . . 1 gal.
"XXXX" Ginger Ale Extract . . . . . 3 to 4 Fl. oz.
Citric Acid Solution . . . . . 1½ to 2 Fl. oz.
Sugar Color . . . . . ½ to ¾ Fl. oz.

CREAM SODA.

The preparations sold by supply houses, under this name, differ according to the fancy of the compounder, being varying mixtures of flavors in which vanilla predominates.

(No. 59) "Cream" Soda Extract.

Pure Extract of Vanilla . . . . . 4 oz.
Extract of Lemon . . . . . 4 oz.
Extract of Pineapple . . . . . 4 oz.
Essence of Rose (No. 45) . . . . . 4 oz.

To one gallon of syrup add—

"Cream" Soda Extract . . . . . 2 oz.
Foam to suit.
Sugar Color . . . . . ½ oz.

(No. 60) "East India Cream" Extract.

Vanillin	¼ Av. oz.
Cumarin	½ Av. oz.
Alcohol	6 pt.
Chloroform	½ oz.
Extract of Lemon	6 pt.
Extract of Orange	6 pt.
Water	2 pt.

Mix all in rotation. See that all ingredients are well dissolved. Filter through paper.

To 1 gallon syrup use—

"East India" Cream	3 oz.
Red Fruit Color	½ oz.

Foam to suit.

(No. 61) Cream Soda Extract.

Vanillin	32 Av. oz.
Cumarin	24 Av. oz.
Alcohol, 95 per cent	13 gal.
Soluble Lemon Extract	5 gal.
Strawberry Extract	5 gal.
Water to make	50 gal.
Red Fruit Color	2 Fl. oz.
Sugar Color	8 Fl. oz.

Use 1 ounce to 1 gallon syrup. Color and foam to suit.

COCA AND KOLA DRINKS.

The following formula is claimed to be the original "COCA COLA" formula, and has been sold at prices ranging from $50 to $500.

It is extensively used throughout the United States and is the basis for every "Cola" extract on the market. If directions are followed and the extract and syrup allowed to age it gives a most excellent product. Some manufacturers use less of the "Cola" extract and considerably more lime juice. Most manufacturers buy the Soluble Extract of Coca Leaves and Kola Nuts from wholesale druggists.

(No. 62) Fluid Extract of Coca. Soluble.

Dark Green Coca Leaves.....10 lbs.
Chemically Pure Lime.....10 oz.
Alcohol, 95 per cent.....2 gal.
Water, Distilled.....2 gal.

Grind leaves to a coarse powder. Pulverize lime and mix with the dry leaves. Mix alcohol and water and add 2 gallons of the mixture to the leaves and mix until the leaves are thoroughly saturated. Pack leaves in percolator and tamp down good and hard.

Place percolator in position and pour in balance of alcohol and water. When the liquid begins to drop from the percolator, close the lower orifice and, having closely covered the percolator, macerate for 48 hours. Then open percolator at bottom and let drip for 12 hours; then close percolator and pour in 1 gallon of boiling water and let stand 24 hours. Open percolator and let drip till the entire percolate measures $2\frac{3}{4}$ gallons.

(No. 63) Fluid Extract of Kola Nuts. Soluble.

Kola Nuts, ground.....8 lbs.
Moisten with menstruum, made as follows:
$33\frac{1}{3}$ oz. Cologne Spirits.
$66\frac{2}{3}$ oz. Distilled Water.

Let stand 48 hours and add menstruum in same proportion till percolate measures 2 gallons.

(No. 64) "Coca and Kola" Flavoring.

Grain Alcohol.....$5\frac{1}{2}$ gal.
Best Extract of Vanilla.....14 oz.
Oil of Lemon.....14 oz.
Oil of Sweet Orange.....7 oz.
Oil of Limes.....4 oz.
Oil of Cassia.....21 Fl. drm.
Oil of Nutmeg.....10 Fl. drm.
Oil of Neroli.....3 Fl. drm.

Let this stand at least 3 weeks before using. The older the better.

(No. 65) "Coca and Kola" Extract.

Alkaloid of Caffeine.....5 lbs.
Boiling Water.....5 gal.

Dissolve caffeine in the water, using an enameled kettle. After the caffeine is dissolved put in container and add—

Water.....6 gal.
Pure Glycerine.....5 gal.
Fl. Ex. Coca Leaves (No. 62).....1 gal.
Fl. Ex. Kola Nuts (No. 63).....1 gal.
Phosphoric Acid, syrupy.....10 lbs.
Best Lime Juice.....2 gal.
"Coca and Kola" Flavor (No. 64).....1¾ gal.

Agitate thoroughly and filter through heavy French filter paper. When all is filtered, add to the product—

Acid-Proof Sugar Color.....4 gal.

Mix thoroughly with the extract and let stand at least 20 days.

Use of this—

"Coca and Kola" Extract..... 1 gal.
Syrup.....10 gal.

Mix well and let stand several days before using.

(No. 66) "Cola" Syrup.

Sugar.....60 lbs.
Water.....5 gal.

Dissolve sugar and bring to a boil. Then, while boiling, stir in syrup—

40 Fl. oz. best sugar color.

Let cool and add—

Phosphoric Acid, syrupy.....3 Fl. oz.
Alkaloid of Caffeine.....1½ Av. oz.
(Dissolved in 8 oz. boiling water.)
Fluid Extract Cola Leaves.....1½ Fl. oz.
Fluid Extract Kola Nuts.....2½ Fl. oz.
Alcohol.....1 pt.
Extract of Vanilla..... 5 Fl. oz.
Cola Flavor..... 4 Fl. oz.
Glycerine..... 4 Fl. oz.
Lime Juice.....16 Fl. oz.

Let age for 3 days.

The sugar color used in all Cola drinks must be of the best.

(No. 67) Cola Flavor (for No. 66).

Oil of Lemon	120 drops
Oil of Sweet Orange	80 drops
Oil of Nutmeg	40 drops
Oil of Cinnamon	40 drops
Oil of Coriander	20 drops
Oil of Neroli	40 drops
Alcohol, 95 per cent	1 qt.

Add in rotation, shaking well before adding next ingredient, and let stand 48 hours, when it is ready for use.

One manufacturer is using this formula—with this exception: Instead of using the 1½ ounces of Fluid Extract of Coca Leaves he uses 8 ounces of extract of tea, made as follows:

(No. 68) Extract of Tea.

Green Tea	1 lb.
Water	1 qt.

Bring to boil; when cool add—

Alcohol	8 oz.

Let stand 24 hours; then strain through a cloth.

(No. 69) "Cola Soda" Extract.

Filtered Extract of Quassia	2 Fl. oz.
Soluble Extract of Coca	24 Fl. oz.
Pure Extract of Vanilla	16 Fl. oz.
Oil of Limes, distilled	1½ Fl. oz.
Alcohol, 95 per cent	44 Fl. oz.
Water	44 Fl. oz.

Agitate frequently for 10 hours; then separate oil and filter.

To each gallon of syrup add—

4 oz. "Cola Soda" Extract.
1 oz. Citric Acid Solution.
3 oz. Sugar Color.

Stir briskly after adding each ingredient.

FOAM PREPARATIONS.

1.

(No. 70) Gum Foam.

Soap Barks (chips).....1 lb.
Boiling Water.....10 pt.
Alcohol 95 per cent.....1 pt.

Boil the soap bark in the water for 30 minutes.

Allow to cool.

Add the alcohol.

Pack a small quantity of dry soap bark in a percolator to make a strainer; then percolate the whole.

Use ½ to 1 ounce to a gallon of syrup.

2.

(No. 71) Foam.

Ground Soap Bark (Quillaya).....1 lb.
Alcohol 95 per cent.....8 Fl. oz.
Water a sufficient quantity.

Cover the bark, in an enameled vessel, with boiling water, and infuse for 2 hours; then pour off the liquid and reserve. Pour fresh boiling water on the bark and again infuse, and pour off as before, repeating the operation three times; mix the decoctions obtained and evaporate to 1½ fluid pint; to this add, when cool, the alcohol and, after standing, filter.

Use ½ ounce to 1 gallon of syrup.

1.

(No. 72) Concentrated Foam.

Mouessin (saponine).....24 Av. oz.
Water.....1 gal.

Dissolve the Mouessin in the water by agitation, and when dissolved add—

Formaldehyde.....2 Fl. drm.

Use 1 drachm to 1 gallon, or 1 ounce to 15 gallons of syrup.

Mouessin can be bought through Dodge & Olcott, New York.

2.

(No. 73) Concentrated Foam.

Saponine . . . . . 1 lb.
Glycerine . . . . . ½ gal.
Water . . . . . ½ gal.

Dissolve the saponine in ½ gallon of clear water, and then add the glycerine.

Use ½ drachm to 1 gallon, or 1 ounce to 15 gallons of syrup.

1.

(No. 74) Chocolate "Creme" Extract.

Fresh Roasted, Ground Cocoa Beans . . . . . 10 lbs.
Alcohol 95 per cent . . . . . 9 pt.
Water . . . . . 14 pt.
Cumarin . . . . . 1 Av. oz.
Vanillin . . . . . 1 Av. oz.

Dissolve the cumarin and vanillin in the alcohol and add to the water.

Moisten the beans slightly with this menstruum and pack lightly in a percolator.

Add balance of the menstruum and let stand 48 hours.

Then draw off, adding alcohol and water in same proportion to make the measure percolate 2½ gallons.

Previous to packing in the percolator place in bottom of same a thin layer of absorbent cotton; on top of cotton put a thin layer of powdered pumice stone.

After percolating through this the extract will require no further filtering.

To each gallon of syrup add—

Chocolate Creme Extract . . . . . 4 oz.
Acid Solution . . . . . ¼ oz.
Concentrated Foam . . . . . ½ drm.
Red Color . . . . . ¼ oz.
Sugar Color . . . . . 4 oz.

2.

(No. 75) Chocolate "Creme" Extract.

Baker's Cocoa . . . . . 1 lb.
Glycerine . . . . . 4 oz.
Alcohol . . . . . ½ gal.
Hot Water . . . . . ½ gal.

After thoroughly mixing, filter through pumice and add 1 quart vanillin extract (No. 76).

(No. 76) Vanillin Extract.

Vanillin . . . . . 1 Av. oz.
Cumarin . . . . . ¼ Av. oz.
Glycerine . . . . . 8 Fl. oz.
Alcohol . . . . . ½ gal.
Water . . . . . ½ gal.

Let stand 24 hours; seal and let stand 10 days before using.

Use 3 ounces to 1 gallon syrup.

A Chicago house which turns out large quantities of "Chocolate Cream" Extract uses the following process:

(No. 77) Chocolate "Creme" Extract.

Fresh Roasted and Ground Cocoa Beans . . 100 lbs.
Common Salt . . . . . 7 lbs.
Water . . . . . 50 gal.

Dissolve the salt in the water; add to the beans; stir well; let stand 48 hours and distill off 45 gallons. To this add—

Vanillin . . . . . 30 Av. oz.
Cumarin . . . . . 5 Av. oz.
Alcohol 95 per cent . . . . . 5 gal.
Benzoate of Soda . . . . . 3 oz.

Use 3 ounces to 1 gallon syrup.

(No. 78) "East India Lemon Sour" Extract.

Oil of Lemon . . . . . 6 oz.
Oil of Limes (redistilled). . . . . 2 oz.
Alcohol 95 per cent . . . . . ½ gal.
Water (warm) . . . . . ½ gal.
Alum . . . . . ½ drm.

Add oils to the alcohol and shake well.

Dissolve the alum in the water.

Add the water gradually, in small quantities, shaking well after each addition.

Set aside to settle for 6 hours.

A scum will form on top. Separate extract from this with a rubber hose.

Filter clear through magnesia.

Use as follows:

Syrup . . . . . 1 gal.
Lemon Sour Extract . . . . . 2½ oz.
Lemon Sour Acid (No. 79) . . . . . 3 oz.
Yellow Color . . . . . ½ oz.

(No. 79) Lemon Sour Acid.

Citric Acid . . . . . 16 lbs.
Table Salt . . . . . 2 lbs.
Boiling Water . . . . . 1½ gal.
Gum Foam (No. 70) . . . . . ½ gal.

Dissolve acid and salt in water; then add foam.

VANILLA AND TONKA.

The vanilla plant (Vanilla Plantifola) is a climbing parasitic plant belonging to the orchid family. It begins to bear fruit at the age of four to five years. It bears a most fragrant white blossom, from which later small pods spring, often to the number of 20 or 30. The fruit, which develops rapidly, is a slender pod, 7 to 10 inches long, filled with an oily pulp containing a great number of tiny black seeds. The curing is the most important factor in the vanilla bean culture. It requires three to four months to complete the curing. The beans are first sweated, by wrapping them in blankets, and then alter-

nately removing and exposing to the air and rewrapping them. At last they are spread in the sunlight to color, and they change slowly from a yellow to a rich dark brown, often so dark as to be almost black. After the beans are cured they are sorted according to length and tied up in bundles weighing from 12 to 16 ounces in weight.

The beans are then packed in tin boxes, which are, in turn, packed in cedar-wood boxes—usually four tins to a box—40 bundles to a tin. The plant is grown in various sections of the tropical regions, the principal sources of supply being Mexico, Tahiti, Re-Union, Madagascar and Java. The beans from Mexico are called Mexican vanilla beans, and are considered to be the best. Bourbon vanilla beans come chiefly from the Re-Union Islands, though all vanilla beans coming from the French possessions are so termed. Tahiti beans are grown in the South Seas, and for the most part are grown wild. They average from four to eight inches in length, and resemble Mexican and Bourbon beans in appearance. While they are largely used, they are not to be recommended to anyone who desires to make a good extract.

The requirements of the United States Food and Drugs Act of June 30th, 1906, makes the minimum quantity of vanilla bean to be used in an extract practically $12\frac{1}{2}$ ounces per gallon.

(No. 80) Formula: Extract of Vanilla U. S. P.

Vanilla Beans	10 lbs.
Granulated Sugar	20 lbs.

Bruise vanilla beans and sugar together. Then add 6 gallons of a mixture of $6\frac{1}{2}$ gallons grain alcohol and $3\frac{1}{2}$ gallons of water.

Let this stand over night; then pour off the liquid.

Pack the beans in a percolator and add the liquid previously poured from them.

Follow this with more liquid made up of $6\frac{1}{2}$ parts grain alcohol and $3\frac{1}{2}$ parts water, until $12\frac{1}{2}$ gallons (100 pints) of percolate have been secured.

In this formula the 10 pounds of vanilla beans may be either all Mexican, all Bourbon or Mexican and Bourbon beans mixed.

As compared with the Mexican bean, the Bourbon has a more pronounced, but not so delicate, flavor. The flavor, being coarser, is more distinct to the taste. Many extract manufacturers combine the two beans when making up their products.

The Pure Food and Drugs Act requires the extractive matter of 10 per cent of the vanilla beans to appear in the finished extract.

The following formulas differ to some extent from the figures given above, none of them, however, using less of the bean than the quantity specified by the Food and Drugs Act.

They will be found entirely satisfactory and illustrate fully the various methods of extraction:

1.

(No. 81) Vanilla Extract.

Vanilla Beans . . . . . 5 lbs.
Water . . . . . 3 gal.
Alcohol . . . . . 3 gal.

Cut or grind the beans fine and place in container provided with a close-fitting top. Pour over them 1 gallon of the water which has been heated to boiling; let stand for 24 hours, stirring occasionally. Then add 1 gallon more of the water (boiling) and strain through a cotton cloth, pouring the remainder of the water, at a boiling temperature, over the drugs on the strainer. After the liquid has cooled, add the alcohol and allow to stand several days.

Most manufacturers prefer to macerate the beans for a longer period.

2.

(No. 82) Vanilla Extract.

Vanilla Beans	5 lbs.
Water	3 gal.
Alcohol	3 gal.

Cut the beans small and place in a clean wooden keg; pour over them the water, heated to a boiling point.

After 48 hours add the alcohol and continue the maceration for five weeks. Filter and add 3 pints of rock candy syrup.

3.

(No. 83) Vanilla Extract.

Mexican Vanilla Beans	5½ lbs.
Granulated Sugar	7 lbs.
Alcohol	4 gal.
Water	3 gal.

Cut the beans in small pieces; place in keg and pour over them 7 pints of the water at a boiling temperature. Cover and macerate for 24 hours. Now pour off the liquid, which reserve, to be added to them later, and pass the beans through a chopper, grinding them as fine as possible. Put the beans back in the keg with the sugar and add the water previously drained off, with an additional gallon of pure water. Macerate for 24 hours, with frequent stirring; then add 1 gallon of alcohol; macerate for one week and add another gallon of alcohol, and after another week ½ gallon of alcohol.

Let macerate 30 days; then transfer to a percolator and allow the liquid to drain off.

Now mix the remaining portion of the water (9 pints) with the remainder of the alcohol (12 pints) and pass this through the beans in the percolator. No filtration is required and the extract is ready for use, although it will continue to improve for several months.

4.

(No. 84) Vanilla Extract.

Vanilla Beans	4 lbs.
Granulated Sugar	4 lbs.
Water	1 gal.
Alcohol	3 gal.

Cut the beans small and bruise well with the sugar; place in clean keg and pour over them the alcohol and water. Macerate in a warm place, with occasional agitation, for five or six weeks; then filter.

(No. 85) Vanilla and Tonka Extract.

Vanilla Beans	10 lbs.
Tonka Beans	2½ lbs.
Alcohol	7½ gal.
Water	7½ gal.
Glycerine	½ gal.
Prune Juice	1 gal.
White Sugar Syrup	1½ gal.

Cut or grind the beans as fine as possible and pack in a percolator, alternating layers of excelsior and the ground beans; close percolator at bottom; pour on the alcohol and water and let stand for 48 hours; then allow to percolate slowly.

Add the glycerine, prune juice and syrup to the percolate. This will precipitate more or less, and after standing for two or three weeks should be racked off and filtered.

VANILLIN AND CUMARIN.

Artificial vanillin is now the principal source of vanilla flavor. It was discovered some 30 years ago, and at first sold for $5 to $6 an ounce. It now sells for from 35 to 50 cents per ounce. Vanillin is not only a substitute for vanilla, but yields a flavor exactly identical with the latter, and is in every respect more convenient and elegant in its use, being free from all undesirable fibrous extractive or coloring matters.

Artificial cumarin has entirely superseded the use of the Tonka bean in extract making. Cumarin was first sold for $25 a pound. It is worth now from $3 to $4 a pound.

The crystals you may have noticed on Tonka beans are natural cumarin. This is sometimes collected and sold at a much higher rate than the artificial, but it is not so satisfactory and uniform to work with. To quote from the advertisement of Fritzsche Bros.:

"It is not a substitute for the Tonka bean, but precisely the same body which gives this its aroma. It has exactly the same qualities, and cannot be distinguished from the cumarin extracted from the Tonka bean, neither by the senses nor by the art of the chemist."

Vanillin and cumarin are, therefore, the proper materials to be used in making of the extracts of vanilla and Tonka.

(No. 86) Vanilla Extract.

(Made from vanillin.)

Vanillin	1 oz.
Cologne Spirits	1 gal.
Distilled Water	6 pt.
Sugar Syrup	1½ pt.
Glycerine C. P.	½ pt.

The syrup in the above formula is made on the basis of 7½ pounds of sugar to ½ gallon of water, dissolving the sugar in the water by means of heat.

(No. 87) Vanilla and Tonka Extract.

(Made from vanillin and cumarin.)

Vanillin	1 oz.
Cumarin	1 oz.
Sugar	2 lbs.
Alcohol	2 pt.
Water to make	2 gal.

Dissolve vanillin and cumarin in the alcohol; add the sugar, dissolved in 1 quart of water; let stand for a few hours and add water to make 2 gallons.

(No. 88) Vanilla Extract.

Vanillin . . . . . 2 oz.
Cumarin . . . . . 2 oz.
Benzoic Acid . . . . . 6 oz.
Alcohol . . . . . 1½ gal.
Glycerine . . . . . 1½ gal.
Distilled Water . . . . . 9 gal.

(No. 89) Ironone Extract.

Oil of Bitter Orange. . . . . 16 oz.
Oil of Sweet Orange. . . . . 8 oz.
Cumarin . . . . . 1 oz,
Amyl Valeriante . . . . . 1 oz.
Alcohol . . . . . 3 gal.
Vanillin Extract (No. 92) . . . . . 3 oz.
Tincture of Orris Root. . . . . 2 pt.
Fluid Extract of Kola . . . . . 16 oz.
Water . . . . . 5 gal.
Sugar Color . . . . . 2 pt.

Add 12 ounces citrate of iron-soluble, dissolved in 50 ounces of hot water. Filter through paper.

Use to—

Syrup . . . . . 1 gal.
Ironone Extract . . . . . 2 oz.
Tartaric Acid Solution . . . . . 2 oz.
Sugar Color . . . . . 4 oz.

This is a most satisfactory reproduction of a largely advertised "Iron" drink.

2.

(No. 90) Iron Tonic Extract.

Extract of Orange . . . . . 12 pt.
Vanillin Extract (No. 86) . . . . . 8 pt.
Bitter Almond Extract (No. 91) . . . . . 16 oz.
Pyrophosphate of Iron . . . . . 2 oz.

Dissolve the iron in 16 ounces of boiling water; when cold add to above. Then add 4 ounces sugar color. Filter through paper with a little pumice.

Use to—

Syrup	1 gal.
Iron Tonic Extract	3 oz.
Citric and Tartaric Acid Solution	2 oz.
Sugar Color	2 oz.

(No. 91) Bitter Almond Extract.

Oil of Bitter Almonds (free from Prussic Acid)	8 oz.
Alcohol	4 pt.
Water	3½ pt.

Dissolve oil in the alcohol; add water gradually, shaking well after each addition.

(No. 92) Tincture of Vanillin.

Vanillin	1½ oz.
Alcohol	3½ pt.
Glycerine	½ pt.
Water	4 pt.
Sugar Color	1 oz.

(No. 93) Tincture of Fenugreek.

Fenugreek Seed (ground)	2 lbs.
Alcohol 95 per cent.	Q. S.

Moisten the fenugreek with alcohol. Pack in percolator and pour on 2 pints of alcohol. Macerate for 10 hours; then allow the percolation to proceed, adding alcohol till 1 gallon of tincture is obtained.

(No. 94) Essence of Coffee.

Java Coffee	1½ lbs.
Mocha Coffee	1½ lbs.
Water (boiling)	1 gal.
Glycerine	1 pt.

Macerate 24 hours. Press out and percolate gradually with alcohol to make 2 gallons essence.

(No. 95) Tincture of Musk.

Artificial Musk	1 oz.
Alcohol	1 gal.

Let stand at least 10 days before using.

(No. 96) Maple Extract.

Tincture of Fenugreek (No. 93)	6 pt.
Tincture of Vanillin (No. 92)	4 pt.
Essence of Coffee (No. 94)	2 pt.
Tincture of Musk (No. 95)	½ oz.
Balsam of Peru	1 oz.

Dissolve the Balsam of Peru in the tincture of fenugreek and add the other ingredients. Let stand 10 days.

This is a very strong and very satisfactory maple extract.

Use 2 to 4 drachms to 1 gallon of syrup.

TINCTURES.

(No. 97) Tincture of Prunes.

Best California Prunes	10 lbs.
Alcohol 95 per cent	1 gal.
Water	3 gal.

Prepare a keg—say of 10-gallon capacity; about 3 inches from the bottom insert a tightly-fitting false bottom, in which a considerable number of quarter-inch holes have been bored; fit a faucet in firmly below the false bottom and the macerating tub is ready for use.

Bruise the prunes and place in a keg, and pour over the water, heated to boiling. When cool add the alcohol and let stand in a warm place for at least 10 days, keeping the keg closely covered.

Draw off and filter if necessary.

A little of this will improve your vanilla extract and will give a fine fruity flavor to various drinks.

(No. 98) Raisin Tincture.

Raisins	10 lbs.
Licorice Root	3 oz.
Alcohol 95 per cent	1 gal.
Water	3 gal.

Proceed as directed for Prune Juice.

ST. JOHN'S BREAD.

(Siliqua Dulcis.)

The fruit of the Carob tree; a bean from four to six inches long and an inch wide, of a brown leather color, and known as St. John's Bread. The bean contains a marrow of light brown color and very aromatic. The tincture is a very useful addition in preparing the various etherial fruit oils.

(No. 99) Tincture of St. John's Bread.

St. John's Bread.....4 lbs.
Water.....1 gal.
Alcohol 95 per cent.....1 gal.

Mash or cut the beans in small pieces and let them infuse 3 days in 1 gallon of water. Stir twice or more a day; then draw off the tincture and set aside. Then pour over the beans 1 gallon alcohol 95 per cent, let infuse 8 days, press and add to the tincture set aside.

(No. 100) Peach Juice.

Dried Peaches.....5 lbs.
Dried Apples.....1¼ lbs.
Alcohol 95 per cent.....1 gal.
Water.....1 gal.

Macerate for 3 days, press and filter. Useful in peach cider.

(No. 101) Lime Champagne Extract.

Extract of Lemon (soluble)..... 2¼ Fl. oz.
Extract of Orange (soluble)..... 1½ Fl. oz.
Orange Flower Water..... 9 Fl. oz.
Lime Juice.....18 Fl. oz.
Citric Acid Solution..... 3 Fl. oz.
Yellow Color..... ¼ Fl. oz.

Mix these ingredients, one at a time, in the order named, shaking the mixture well each time before adding the next article.

Use 8 ounces of this extract to 1 gallon of syrup.

Use 3 ounces of the syrup to each 20 or 22 ounces of carbonated water.

(No. 102) Cinnamon Extract.

(Cassia Extract.)

Cinnamon Ceylon, bruised.....4 Av. oz.
Oil of Cinnamon..... 1 Fl. oz.
Alcohol.....16 Fl. oz.
Water.....16 Fl. oz.

Mix, macerate for 10 days, agitating occasionally, and filter.

(No. 103) Clove Extract.

Cloves, bruised.....2 Av. oz.
Oil of Cloves.....4 Fl. drm.
Alcohol.....16 Fl. oz.
Water.....16 Fl. oz.

Mix, macerate for 10 days, with occasional agitation, and filter.

(No. 104) Anise Extract.

Oil of Anise..... 2 Fl. oz.
Alcohol.....16 Fl. oz.

The U. S. P. spirit of anise is made with 1 fluid ounce of oil and 9 fluid ounces of alcohol.

(No. 105) Caraway Extract.

Caraway Seed, bruised.....2 Av. oz.
Oil of Caraway.....4 Fl. drm.
Alcohol.....16 Fl. oz.
Water.....16 Fl. oz.

Mix, macerate for 10 days, with frequent agitation, and filter.

(No. 106) Nutmeg Extract.

Nutmegs, grated.....1 Av. oz.
Oil of Nutmeg, volatile.....2 Fl. drm.
Alcohol.....16 Fl. oz.
Water.....16 Fl. oz.

Mix, macerate for 10 days, frequently agitating, and filter.

(No. 107) Orgeat Extract.

Oil of Bitter Almonds (deprived of Hydrocianic Acid). . . . . ½ Fl. oz.
Acetic Ether . . . . . ½ Fl. oz.
Butyric Ether . . . . . 1 Fl. oz.
Tincture of Orris . . . . . 15 Fl. oz.
Alcohol, enough to make . . . . . 32 Fl. oz.

(No. 108) Black Pepper Extract.

Black Pepper, powder . . . . . 4 Av. oz.
Alcohol, sufficient.

Extract the pepper by slow percolation, so as to obtain 32 fluid ounces of product.

If desired the pepper may be increased and the alcohol replaced by half water.

The pepper must be pure, and freshly ground.

(No. 109) Pimento Extract.

Oil of Pimento . . . . . 1 Fl. oz.
Alcohol 95 per cent . . . . . 31 Fl. oz.

(No. 110) Peppermint Extract.

(Spirits of Peppermint.)

Oil of Peppermint . . . . . 3 Fl. oz.
Peppermint, bruised . . . . . 2½ drm.
Alcohol, enough to make. . . . . 32 Fl. oz.

Mix, macerate for 24 hours and filter.—U. S. P.

(No. 111) Peppermint Extract.

(For saloon use.)

Oil of Peppermint. . . . . 4½ Fl. oz.
Alcohol . . . . . 96 Fl. oz.
Water . . . . . 24 Fl. oz.
Glycerine . . . . . 2 Fl. oz.
Carbonate of Magnesia, powder . . . . . 1 Av. oz.
Curcuma, powder . . . . . 2 drs.

Triturate the water with the magnesia to a smooth paste; add the oil previously dissolved in the alcohol; add the glycerine and curcuma; macerate for a week, with occasional agitation, and filter.

(No. 112) Sherry Wine Extract.

Oenanthic Ether	2 Fl. oz.
Orange extract (soluble)	2 Fl. oz.
Spirits of Nitrous Ether	30 Fl. oz.

(No. 113) Pear Cider Extract.

Amyl Acetate	1 Fl. oz.
Acetic Ether	½ Fl. oz.
Glycerine	1 Fl. oz.
Alcohol	8 Fl. oz.
Water	8 Fl. oz.
Powdered Pumice	2 Av. oz.

Filter and refilter through paper till bright. Use 1 oz. to one gallon syrup.

(No. 114) Wild Cherry Bark Extract.

Wild Cherry Bark, Powdered.....4 Av. lbs.

Moisten with dilute alcohol and pack tightly in percolator. Pour on one gallon dilute alcohol (alcohol 64 ounces, water 64 ounces).

When it begins to drop close orifice of percolator, let stand 48 hours. Then open, and percolate, adding dilute alcohol till the product measures one gallon—and add one quart of Almond extract made as follows.

Almond Extract.

Oil Bitter Almonds (free from Hydrocianic Acid)	1 Fl. oz.
Alcohol	16 Fl. oz.
Water	16 Fl. oz.
Powdered Pumice	4 Av. oz.

Shake well and filter and refilter till bright.

Cherry Acid Solution.

Citric Acid. . . . . 2½ Av. lbs.
Tartaric Acid. . . . . 2½ Av. lbs.
Hot Water. . . . . 1 gal.
Thoroughly dissolve and add
Phosphoric Acid Syrupy U. S. P. . . . . 2 Fl. oz.

(No. 115) Wild Cherry Phosphate Extract.

Extract of Wild Cherry Bark. . . . . 16 Fl. oz.
Cherry Acid Solution. . . . . 1 gal.
Use four ounces to one gallon of syrup.
Color red.

(No. 116) Lemo-Limo Extract.

Oil of Limes. . . . . 6 Fl. oz.
Citral. . . . . ½ Fl. oz.
Alcohol 95 per cent. . . . . 64 Fl. oz.
Water. . . . . 64 Fl. oz.
Tincture of Vanillin (No. 92). . . . . 6 Fl. oz.
Use to
Syrup. . . . . 1 gal.
Lemo-Limo Extract. . . . . 3 Fl. oz.
Citric Acid Solution. . . . . 2½ Fl. oz.

(No. 117) Kola Nut Extract.

Kola Nuts. . . . . 5 lbs.
Alcohol. . . . . 6 pt.
Water. . . . . 2 pt.

Wash the nuts well, then bruise them to coarse powder, pour on them the alcohol and water, macerate for ten days, press and filter through paper.

(No. 118) Extract of Gentian Root.

Gentian Root, Powdered. . . . . 5 lbs.
Alcohol. . . . . 1 gal.
Water. . . . . 1 gal.

Place root in closely covered jar or vessel with alcohol and water. Let macerate ten days, stirring occasionally, then press and filter through paper.

(No. 119) Hop Ale Extract.

Hops, fresh. . . . . 8 Av. oz.
Quassia, coarse powder. . . . . 4 Av. oz.
Alcohol. . . . . 12 Fl. oz.
Water, sufficient.

Mix the hops and quassia, pour on 24 Fl. oz. boiling hot water, set aside to cool, then add the alcohol, macerate for several days, stirring from time to time, and filter, adding through the filter enough water to make the filtrate measure 32 Fl. ounces.

Use as follows.

Syrup. . . . . 1 gal.
Hop Ale Extract. . . . . 2 Fl. oz.
Soluble Extract of Ginger. . . . . ½ Fl. oz.
Sugar Color. . . . . ¼ Fl. oz.
Foam to suit.

(No. 120) Celery Cream Extract.

Celery Root. . . . . 8 Av. oz.
Celery Seed. . . . . 8 Av. oz.
Vanilla Bean. . . . . 1 Av. oz.
Alcohol, 95.per cent. . . . . ½ gal.
Water. . . . . ½ gal.

Mash seeds and root thoroughly and macerate in the alcohol for ten days. Put in percolator and percolate, adding water till the product measures one gallon.

Use—

Syrup. . . . . 1 gal.
Celery Cream Extract. . . . . 1 oz.
Citric Acid Solution. . . . . 1½ oz.
Concentrated foam. . . . . ½ drm.

(No. 121) Celery Extract.

Oil of Celery.....2 oz.
Alcohol 95 per cent.....½ gal.
Water.....½ gal.
Filter through pumice till bright.
Use 1 to 2 ounces to 1 gallon syrup.

ARTIFICIAL FRUIT OILS.

The so-called Fruit Oils are combinations of etherial products and alcohol.

The formulas for Strawberry, Raspberry, Pineapple and Wild Cherry have already been given.

The following recipes will be found to give every satisfaction. In making up the artificial extracts from these Fruit Oils use the following proportion of water and alcohol, which will give a Fruit Essence or Extract of such strength that one ounce will be sufficient to flavor a gallon of syrup:

Fruit Oil.....1 pt.
Cologne Spirits.....3½ pt.
Distilled Water.....4 pt.

Mix the Oil with the Cologne Spirits, then add the water, in small quantities, while vigorously shaking.

Filter if necessary and color to suit.

Do not use Carbonate of Magnesia for filtering purposes, as some of the ingredients of the Fruit Oils have an acid reaction. If plain paper filters do not entirely clear the product put some purified Talcum Powder in the filter to make the product look clear.

(No. 122) Oil of Apricot. Artificial.

Amyl Butyrate.....16 Fl. oz.
Amyl Acetate.....4 Fl. oz.
Oil of Almonds (free from Prussic Acid).....2 Fl. oz.
Chloroform.....1 Fl. oz.
Ethel Valeriante.....1 Fl. oz.
Glycerine.....15 Fl. oz.
Alcohol 95 per cent.....25 Fl. oz.

(No. 123) Oil of Banana. Artificial.

Amyl Acetate. . . . . 20 Fl. oz.
Amyl Butyrate. . . . . 4 Fl. oz.
Spirits of Nitrous Ether. . . . . 1 Fl. oz.
Aldehyde. . . . . 1 Fl. oz.
Glycerine. . . . . 18 Fl. oz.
Alcohol 95 per cent. . . . . 20 Fl. oz.

(No. 124) Oil of Blackberry. Artificial.

Butyric Ether, absolute. . . . . 12 Fl. oz.
Amyl Valeriante. . . . . 4 Fl. oz.
Amyl Acetate. . . . . 2 Fl. oz.
Tincture of St. John's Bread. . . . . 4 Fl. oz.
Tincture Orris Root. . . . . 6 Fl. oz.
Oil of Lemon. . . . . 2 Fl. drm.
Glycerine. . . . . 16 Fl. oz.
Alcohol 95 per cent. . . . . 20 Fl. oz.

(No. 125) Oil of Cherry. Artificial.

Amyl Acetate. . . . . 6 Fl. oz.
Amyl Butyrate. . . . . 3 Fl. oz.
Benzoic Ether. . . . . 3 Fl. oz.
Oil of Almonds (free from Prussic Acid). . . . . 8 Fl. oz.
Oil of Lemon. . . . . 2 Fl. oz.
Oil of Orange. . . . . 1 Fl. oz.
Oil of Cloves. . . . . 6 Fl. drm.
Oil of Cassia. . . . . ½ Fl. oz.
Glycerine. . . . . 10 Fl. oz.
Alcohol 95 per cent. . . . . 30 Fl. oz.

(No. 126) Oil of Grape. Artificial.

Oenanthic Ether. . . . . 10 Fl. oz.
Formic Ether. . . . . 2 Fl. oz.
Mrthyl Salicylic Ether. . . . . 1 Fl. oz.
Chloroform. . . . . 2 Fl. oz.
Aldehyde. . . . . 2 Fl. oz.
Succinic Acid. . . . . 5 Av. oz.
Tartaric Acid. . . . . 5 Av. oz.
Glycerine. . . . . 10 Fl. oz.
Alcohol 95 per cent to make. . . . . ½ gal.

The Tartaric and Succinic Acids to be dissolved in alcohol.

(No. 127) Oil of Melon. Artificial.

Sebacic Ether	10 Fl. oz.
Valerianic Ether	5 Fl. oz.
Butyric Ether	4 Fl. oz.
Formic Ether	1 Fl. oz.
Aldehyde	2 Fl. oz.
Glycerine	12 Fl. oz.
Alcohol 95 per cent	30 Fl. oz.

(No. 128) Oil of Peach. Artificial.

Amyl Butyrate	10 Fl. oz.
Amyl Valeriante	10 Fl. oz.
Sebacic Ether	4 Fl. oz.
Acetic Ether	1½ Fl. oz.
Oenanthic Ether	1 Fl. oz.
Tincture of Vanillin (No. 92)	2 Fl. oz.
Tincture of Cumarin (No. 43)	1 Fl. oz.
Oil of Bitter Almonds (free from Prussic Acid)	1 Fl. oz.
Glycerine	10 Fl. oz.
Alcohol 95 per cent	20 Fl. oz.

This will be improved by the addition of a few drops of Fritzsche Bros. Etherial Oil of "Peach Blossoms."

(No. 129) Oil of Pear. Artificial.

Amyl Acetate	12 Fl. oz.
Acetic Ether	5 Fl. oz.
Nitrous Ether	2 Fl. oz.
Glycerine	15 Fl. oz.
Alcohol 95 per cent	30 Fl. oz.

PRESERVATIVES.

Sulphurous Acid.

This is the preservative agent largely used for lime juice. It is an effective antiferment, but it gives a peculiar flavor, and is objectionable to some palates.

The proper quantity for a gallon of syrup is one-half ounce.

(No. 130) Borate of Glycerine.

Glycerine. . . . . 2 pt.
Boracic Acid. . . . . 6 drm.

Heat the glycerine over a slow fire.

Add the boric acid gradually and stir until well dissolved.

Use one ounce of this preservative to one gallon of syrup.

(No. 131) Benzoate of Soda Solution.

Benzoate of soda. . . . . 1 lb.
Water. . . . . 56 Fl. oz.

Dissolve and filter through paper.

Of this solution use four fluid ounces to ten gallons of syrup.

When this preservative is used you should label the package to read:

"This beverage contains less than 1 part of benzoate of soda to 2,000 parts, added to improve its keeping qualities."

CIDERS AND KEG GOODS

(No. 132) Keg Cider. Artificial.

Compound Cider Acid.....1 gal.
Sugar Color.....½ pt.
Double Concentrated Cider.....2 pt.
Garantose Solution.....2 pt.
Benzoate of Soda Solution.....2 qt.
Water.....48 gal.

Mix thoroughly and add two or three gallons of boiled cider.

Put up in paraffine kegs or barrels.

(1.)

Compound Cider Acid.

Citric Acid (crystals).....5 lbs.
Tartaric Acid (crystals).....5 lbs.
Acetic Acid pure, 80 per cent.....1 pt.
Phosphoric Acid U. syrupy.....1 pt.

Place all the acids in a stone jar and add two or three gallons boiling water, stirring until all dissolved. Add water to make six gallons.

(2.)

Double Concentrated Cider.

Soluble Fruit Oil.....1 lb.
Alcohol 95 per cent.....1 gal.
Water.....16 oz.

Mix oil and alcohol, slowly adding the water. The above formula applies to all oils but the orange, which should be

Oil of Orange.....1 lb.
Alcohol.....1 gal.
Water.....6 lbs.

Mix as directed above.

(3.)

Garantose Solution.

Merck's Garantose.....1 lb.
Warm water, to make one gallon.

(4.)

Benzoate of Soda Solution.

Benzoate of soda. . . . . 1 lb.
Warm water, to make one gallon.

(5.)

Gum Tragacanth Solution.

Gum Tragacanth. . . . . 1 lb.
Water. . . . . 9 gal.

Stir three or four times a day till all dissolved, then add one pound of Benzoate of Soda dissolved in one gallon of hot water.

Should you desire to have a heavy body to the artificial cider simply add three or four gallons of the Tragacanth Solution to each 50 gallons.

(No. 133) Cheap Apple Cider.

Boiled Cider. . . . . 2 gal.
Granulated Sugar. . . . . 25 lbs.
Tartaric Acid. . . . . ¾ lb.
Water. . . . . 30 gal.

Color to suit with sugar color. Thoroughly mix, let stand three days, then draw off and add one ounce of Benzoate of Soda to each ten gallons of cider. Keep in a cool place.

(No. 134) Artificial Cider.

Put in a strong new cask:
Soft Water. . . . . 25 gal.
Tartaric Acid. . . . . 2 lbs.
Common Brown Sugar. . . . . 25 lbs.
Bakers' Yeast. . . . . 1 pt.

Stir until the sugar and acid are dissolved, and let stand for 24 hours with the bung out.

Then add three gallons of whisky and bung tightly At the end of 48 hours the "cider" is ready for use.

(No. 135) Artificial Cider.

Put in a large, clean, wooden tub, fitted with a closely fitting cover:

Rain or distilled water	20 gal.
Honey	1 gal.
Powdered Catechu	5 drm.
Powdered Alum	1 oz.
Fresh Yeast	2 pt.

Stir until ingredients are well mixed, then put the cover on loosely. Place in the full sunshine, or a warm place, and let stand ten days, skimming off the scum occasionally. Then closely cover and at the end of two weeks add:

Peach Kernels, coarsely powdered	2 oz.
Cloves, coarsely powdered	2 oz.
Sugar Color	6 oz.
Good Whisky	5 pt.

Taste and, if too sweet, carefully add cider vinegar or dilute acetic acid sufficient to correct. If too acid, add more honey. The cider is now ready for boiling.

This artificial cider may be given a delicate aroma by adding a small amount of apple-essence, prepared as follows:

(No. 136) Apple Essence.

Take of:

Small red, sweet apples, a sufficient amount. Cut them into small pieces and to every 35 pounds of the apples, add ten pounds of common salt. Put in a warm place and let them stand, with occasional stirring, for six weeks or two months. At the expiration of this time add 30 pounds of water and four pounds of alcohol of 95 per cent. Let digest for a few days, filter and express.

The peelings of the apple gives this essence a rich, ruby color, and if fragrant apples have been used the aroma is very fine.

(No. 137) Cheap Keg Cider.

Dried apples. .....3 lbs.
Water. .. ..1½ gal.

Boil down to one gallon and strain through cloth. Add:

Sugar. . .....12 lbs.
Tartaric Acid. .....2 Av. oz.
Benzoate of Soda Solution.....4 Fl. oz.
Water, to make.....14 gal.

(No. 138) Mexican Hot. Kegs.

Sugar. .....16 lbs.
Soluble Extract Ginger. .....6 oz.
Wild Cherry Extract.....3 oz.
Citric Acid Solution.....6 oz.

(No. 139) Hot Tom Extract.

Ground Gentian Root. . .....6 Av. oz.
Ground Ginger Root. . .....1½ Av. oz.
Ground Orange Peel. . .....1½ Av. oz.
Capsicum. . .....6 drm.
Alcohol 95 per cent.....24 Fl. oz.
Water. .....40 Fl. oz.

Macerate ten hours, percolate with water and alcohol, in proportions mentioned to make one-half gallon; to this add:

Spirits Nitrous Ether. .....1½ Fl. oz.

For Bottling:

Syrup. . .....1 gal.
Soluble Extract Hot Tom.....2 Fl. oz.
Sugar Color. .....½ Fl. oz.
Red Color. .....¼ Fl. oz.
Citric Acid Solution. .....2 Fl. oz.

Throw 1 to 1½ ounces to each 8 ounce bottle.

For Kegs:

Sugar Syrup Standard. .....3¾ gal.
Hot Tom Extract. .....26 Fl. oz.
Citric Acid Solution. .....24 Fl. oz.
Water. . .....12 gal.
Color, to suit.

SPECIAL SYRUP DRINKS

Lime Juice Champagne Syrup.

Sugar	48 lbs.
Water	6½ gal.
Soluble Orange Extract	4 Fl. oz.
Soluble Lemon Extract	4 Fl. oz.
Soluble Extract of Limes (No. 57)	16 Fl. oz.
Sulphurous Acid	4 Fl. oz.
Sugar Color	2 Fl. oz.
Citric Acid Solution	26 Fl. oz.

Use 2¼ ounces to each pint bottle.

Note—If one pint of brandy and one quart of dry sherry be added to above syrup and well stirred, it will produce a beverage that will compare with many brands of champagne sold as genuine.

Nectar Syrup.

Sugar	46 lbs.
Water	6½ gal.
Soluble Lemon Extract	8 Fl. oz.
Soluble Orange Extract	8 Fl. oz.
Amyl Nitrite	3 Fl. oz.
Citric Acid Solution	36 Fl. oz.
Sugar Color	2 Fl. oz.

Use 1½ ounces to each 8 ounce soda bottle.

Nerve Food Syrup.

Extract of Gentian Root (No. 118)	20 Fl. oz.
Extract of Sarsaparilla (No. 12)	10 Fl. oz.
Sugar Color	18 Fl. oz.
Syrup	10 gal.

Use 1 ounce to 8 ounce soda bottle.

This makes a syrup closely resembling Moxie.

Ginger Champagne Syrup.

Sugar	46 lbs.
Water	6½ gal.
Soluble Extract of Ginger	8 Fl. oz.
Soluble Extract of Orange	16 Fl. oz.
Soluble Extract of Lemon	8 Fl. oz.
Sulphurous Acid	4 Fl. oz.
Vanilla Extract	2 Fl. oz.
Sugar Color	2½ Fl. oz.
Citric Acid Solution	32 Fl. oz.

Use 1 to 1¼ ounces to each 8 ounce soda bottle.

Kola Champagne Syrup.

Sugar	48 lbs.
Water	6 gal.
Soluble Orange Extract	16 Fl. oz.
Kola Nut Extract (No. 135)	40 Fl. oz.
Sulphurous Acid	4 Fl. oz.
Citric Acid Solution	36 Fl. oz.
Sugar Color	2 Fl. oz.

Use 2¼ ounces to each pint bottle.

Ciderette Syrup.

Sugar	46 lbs.
Water	6½ gal.
Soluble Lemon Extract	4 Fl. oz.
Butyric Ether	1 Fl. oz.
Sugar Color	1½ Fl. oz.
Citric Acid Solution	50 Fl. oz.

Use 1 to 1¼ ounces to each 8 ounce soda bottle.

Ginger Punch Syrup.

Sugar	42 lbs.
Water	6½ gal.
Citric Acid Solution	24 Fl. oz.
Soluble Extract of Ginger	9 Fl. oz.
Capsicum Extract (No. 52)	½ Fl. oz.
Soluble Lemon Extract	10 Fl. oz.
Soluble Orange Extract	4 Fl. oz.
Sulphurous Acid C. P	5 Fl. oz.
Sugar Color	1½ Fl. oz.

Use 1½ ounces to each 8 ounce soda bottle.

Hop Ale Syrup.

Sugar	55 lbs.
Hops	1 lb.
Quassia Chips	½ oz.
Tartaric Acid	10 oz.
Salicylic Acid	¼ oz.
Sugar Color	3 oz.
Concentrated Foam	¾ Fl. oz.

Put the hops and quassia chips in a clean muslin bag, boil slowly twenty minutes in five gallons of water. Have the sugar in the keg and run in the hot liquor; the acids can be dissolved in this. Let stand till cold, add foam and coloring and make up to ten gallons with cold water.

Use one ounce to each 8 ounce bottle.

This is a recipe of a Glasgow firm who some years ago sold great quantities of "Carbonated Hop Ale." The same firm had a large sale on a brewed

"Hop Bitter Beer."

(100 gallons.)

Good Hops	3 lbs.
Chiretta Root	1 oz.
Chili Pods	⅓ oz.
Sugar	75 lbs.

Boil the first three ingredients in ten gallons of water for thirty minutes; then run in clean cask and add the

sugar and more water to dissolve it. When dissolved fill up cask to 100 gallons with lukewarm water, stir in one quart of sugar color and one quart of baker's yeast. Work 24 hours, then skim the head off and fine with one pint of Brewer's Isinglass. In 12 hours bottle into dry bottles.

Orange Champagne Syrup.

Sugar	46 lbs.
Water	6¼ gal.
Soluble Orange Extract	20 Fl. oz.
Soluble Lemon Extract	5 Fl. oz.
Soluble Lime Extract (No. 57)	3 Fl. oz.
Sulphurous Acid	3 Fl. oz.
Citric Acid Solution	3 Fl. oz.
Orange Color, to suit.	

Use 2¼ ounces to each pint bottle.

Champagne Cider Syrup.

Sugar	51 lbs.
Water	6 gal.
Tartaric Acid	1⅓ Av. lbs.
Essence of Pear	4 Fl. oz.
Essence of Apple	5 Fl. oz.
Extract of Rose	2 Fl. oz.
Foam and color, to suit.	

Use 2¼ ounces of this syrup to each pint champagne bottle.

Essence of Apple.

Amyl Nitrite	2 Fl. oz.
Alcohol 95 per cent	14 Fl. oz.

Essence of Pear.

Acetate of Amyl	2 Fl. oz.
Alcohol 95 per cent	14 Fl. oz.

Quinine Tonic Syrup.

Sugar	80 lbs
Citric Acid	1 lb.
Sulphate of Quinine	1 oz.
Quassia Chips	2 oz.
Soluble Extract of Lemon	16 oz.
Soluble Extract of Orange	8 oz.
Salicylic Acid	¼ oz.

Dissolve sugar in eight ounces water.

Dissolve the citric acid in one-half gallon boiling water, when nearly cold add quinine and stir till dissolved, and pour into syrup. Macerate the quassia chips two hours in one-half gallon boiling water, when cold strain the infusion through cloth into the syrup, add the other ingredients and add water to make 15 gallons.

Use one ounce of syrup to each 8 ounce bottle.

New Jersey Creme Syrup.

Syrup (Standard)	5 gal.
Raspberry Wine Flavor (No. 39)	16 oz.
Tincture of Vanillin (No. 92)	6 oz.
Phosphoric Acid Solution	6 oz.
Sugar Color	3 oz.
Red Fruit Color	1 oz.

Thoroughly mix and add:

Tincture of Ajonc	¾ oz.

Mix and let stand several hours before bottling. Use 1 ounce to 8 ounce bottle.

Tincture of Ajonc.

Ajonc, Blanc	1 oz.
Alcohol 95 per cent	8 oz.

Ajonc is one of the DeLaire & Co. specialties, and can be obtained through the Dodge and Olcott Co.

Apple Ambrosia or "June Apple Juice."

Hard Cider. . . . . 6 gal.
Sugar. . . . . 47½ lbs.
Saccharine Solution (1 pound Garantose to 1 gallon water). . . . . 2 Fl. oz.
Citric Acid Solution. . . . . 8 Fl. oz.
Benzoate of Soda Solution. . . . . 2 Fl. oz.

Color a light red with red fruit color.

Use 1 to 1½ ounces of this syrup to each 8 ounce bottle.

COLORS.

Caramel or Sugar Color.

Sugar, any amount.
Water, a sufficient quantity.

Put the sugar (without water) in a large iron kettle, heat it to 410 deg. to 430 deg. Fah., as long as it gives off any vapor, and until it is changed to a black viscid mass, stirring it occasionally during the operation, then cool, and while cooling add hot distilled water in the proportion of one pint for each pound of the sugar used, let stand to dissolve, strain the solution and concentrate it by evaporation to the consistency of syrup. Sugar color is prepared on a large scale commercially and is sold so cheaply, that it will hardly pay for the small bottler to manufacture it.

In buying always test; any sugar color which will not stand the acid test is unfit for bottlers' use.

Recipe for Testing Sugar Color.

Color 2 ounces of water to a dark brown shade with the sugar color, and to this add half a drachm of muriatic acid. This solution should remain clear, that is, no sediment should appear in two or three days. If any color is precipitated, it is unfit for using in beverages, for good sugar color will not be affected by muriatic acid, which is proof that the color will remain brilliant when it comes in contact with the citric or tartaric acid commonly used.

Red Color. Carmine.

Cudbear. . . . . 4 Av. lbs.
Alcohol. . . . . ½ gal.
Water to make. . . . . 1 gal.

Grind cudbear to coarse powder.

Put in water bath percolator and let stand 24 hours, then percolate, adding water till percolate measures 1 gallon.

This is similar to the "vegetable red" color sold by dealers.

Red Color. Carmine .

French Carmine No. 40. . . . . 3 Av. oz.
Soda Carbonate. . . . . 6 oz.
Water. . . . . ½ gal.

Dissolve the soda in water and add carmine. Stir well.

Yellow Color. Tumeric.

Tumeric (ground). . . . . 1 lb.
Dilute Alcohol. . . . . 10 pt.

Exhaust by maceration and percolation. Keep in dark place.

Yellow Color. Tincture of Saffron.

Saffron. . . . . 1 lb.
Alcohol. . . . . 5 pt.
Water. . . . . 5 pt.

Mix alcohol and water and add the saffron. Allow this mixture to stand in a warm place for several days, with occasional agitation, then filter. The tincture thus prepared has a deep orange color, and when diluted, or used in small quantities, gives a beautiful yellow tint to syrups.

With the exception of sugar color, there are no colors, that can be made for bottlers' use, that will equal the coal tar colors. Food Inspection Decision No. 76, published July 13, 1907, gives a list of seven coal tar colors,

which may, without objection from the Department of Agriculture, be used in foods until further notice. Several manufacturers have succeeded in producing the seven colors, under the conditions outlined in Food Inspection Decision No. 77.

Certified dyes are now on the market and can be used without objection, by the Department of Agriculture, provided the use of dyes in food does not conceal damage or inferiority.

The bottler therefore will find it more economical to use these certified colors instead of the so-called vegetable colors.

Following is a list of the seven permitted colors:

The harmlessness of certain coal tar colors having been established by the Secretary of Agriculture of the United States after exhaustive investigation, only the colors enumerated and certified in F. I. D. 76 and 77 are allowed under the National Food and Drugs Act, June 30, 1906.

107, Amaranth.
56, Ponceau 3 R.
517, Erythrosin.
85, Orange 1.
4, Naphthol Yellow S.
435, Light Green S. F. Yellowish.
692, Indigo Disulfoacid.

These colors, however, according to F. I. D. 76, must be free from any other coloring matter than the one specified, be free from harmful constituents, and shall not contain any contamination due to imperfect or incomplete manufacture, and a certificate to this effect must be filed with the Secretary of Agriculture for each and every batch, and approved by him.

ARTIFICIAL MINERAL WATERS.

Apollinaris Water. Artificial.

Sodium Bicarbonate	Av. oz.	2
Sodium Sulphate, crystal	Av. oz.	2
Sodium Chloride	Av. oz.	¾
Magnesium Carbonate, powder	gr.	300
Calcium Carbonate, precipitated	gr.	25
Water	10	gal.

Bethesda Water. Artificial.

Sodium Carbonate, pure	gr.	100
Sodium Sulphate, crystal	gr.	30
Sodium Chloride	gr.	8
Potassium Sulphate	gr.	5
Calcium Carbonate, precipitated	gr.	120
Magnesium Carbonate	gr.	135
Water	10	gal.

Blue Lick Water. Artificial.

Sodium Chloride	Av. oz.	11¼
Sodium Carbonate, crystal, pure	Av. oz.	3½
Sodium Sulphate	gr.	20
Sodium Bromide	gr.	15
Potassium Chloride	Av. oz.	¼
Calcium Sulphate, precipitated	Av. oz.	1
Calcium Chloride, dry	gr.	250
Magnesium Chloride, dry	Av. oz.	¾
Water	10	gal.

Chalybeate Water. Artificial.

Ferrous Sulphate, pure	gr.	160
Sodium Chloride	gr.	160
Sodium Carbonate, crystal, pure	gr.	240
Calcium Chloride, dry	gr.	160
Water	10	gal.

Congress Water. Artificial.

Sodium Bicarbonate	Av. oz. 5½
Sodium Chloride	Av. oz. 2
Potassium Bicarbonate	Av. oz. ¾
Magnesium Sulphate, crystal	Av. oz 3½
Water	10 gal.

Crab Orchard Water. Artificial.

Magnesium Sulphate, crystal	Av. oz. 4¾
Sodium Sulphate, crystal	Av. oz. 3¼
Potassium Sulphate	Av. oz. 1¼
Sodium Chloride	Av. oz. 3½
Water	10 gal.

Deep Rock Water. Artificial.

Sodium Chloride	Av. oz. 8¾
Sodium Bicarbonate	Av. oz. 5½
Potassium Chloride	Av. oz. 4½
Calcium Chloride	gr. 140
Magnesium Chloride	gr. 15
Water	10 gal.

Geyser Water. Artificial.

Sodium Sulphate, crystal	Av. oz 2
Sodium Bicarbonate	Av. oz. ½
Ammonium Chloride	gr. 120
Lithium Citrate	gr. 4
Water	10 gal.

Kissinger Water. Artificial.

Potassium Bicarbonate	gr. 270
Magnesium Sulphate, crystal	Av. oz. 3¾
Sodium Bicarbonate	Av. oz. 2¾
Sodium Chloride, pure	Av. oz. 8½
Calcium Chloride, dry	Av. oz. 2¾
Water	10 gal.

Seltzers (Seltzer) Water. Artificial.

Sodium Bicarbonate. . . . . Av. oz. 3 gr. 384
Sodium Chloride. . . . . Av. oz. 2 gr. 384
Calcium Chloride, dry. . . . . gr. 490
Magnesium Sulphate, crystal. . . . Av. oz. 1 gr. 165
Water. . . . . 10 gal.

Dissolve the calcium chloride and magnesium sulphate in 4 fluid ounces of water, mix the solution, let stand for 10 or 15 minutes, and strain through muslin with pressure.

Mix the sodium chloride and bicarbonate with a pint of water, pass the mixture through a fine sieve, follow with the preceding liquid, and thin with enough water to make the liquid measure a half gallon. Shake well, pour into a fountain, fill the latter with water to make 10 gallons, and charge in the usual way with carbonic acid gas.

Star (Saratoga) Water. Artificial.

Sodium Carbonate, crystal. . . . . Av. oz. 4½
Sodium Chloride. . . . . Av. oz. 3
Sodium Sulphate, crystal. . . . . Av. oz. 1
Water. . . . . 10 gal.

Mix and charge in the usual manner.

Lithia Water.

Lithium Carbonate. . . . . gr. 120
Sodium Bicarbonate. . . . . Av. oz. 2½
Water. . . . . 10 gal.

Mix and charge in the usual manner.

Vichy Water. Artificial.

Sodium Bicarbonate. . . . . Av. oz. 10
Sodium Phosphate, crystal. . . . . Av. oz. ½
Sodium Chloride. . . . . Av. oz. ¼
Potassium Bicarbonate. . . . . gr. 272
Magnesium Sulphate, crystal. . . . . gr. 490
Calcium Chloride, dry. . . . . gr. 272
Water to make. . . . . 10 gal.

Triturate the sodium phosphate with the bicarbonate, add the sodium chloride, magnesium sulphate and sodium bicarbonate, stir the mixture with two pints of water, pass through a fine sieve, rubbing through if necessary with a little more water.

Dissolve the calcium chloride in 4 fluid ounces, add it to the other solution, and add enough water if necessary to make the whole measure 4 pints. Shake the whole well, pour into a 10 gallon fountain and charge with carbonic acid gas.

White Rock Water. Artificial.

Sodium Carbonate, pure crystal.	gr. 85
Sodium Sulphate, crystal.	gr. 250
Potassium Sulphate.	gr. 100
Aluminum Chloride.	gr. 240
Ferrous Sulphate.	gr. 60
Calcium Carbonate.	Av. oz. 3½
Magnesium Carbonate, powder.	Av. oz. 4
Water.	10 gal.

Potassa Water.

Lithium Carbonate.	gr. 320
Potassium Bicarbonate.	gr. 960
Boric Acid.	Av. oz. 1
Water.	10 gal.

Take lithia potash and acid, mix in 1 gallon of water and filter through filter paper into fountain, add 9 gallons water and charge at 70 pounds pressure.

ENGLISH FORMULAS.

A method obtains in England of making soluble tinctures by the use of alkaline solutions, called

The Deresining Process.

Take of—

Phosphate of Soda.	4¼ oz.
Dissolve in Water.	½ gal.

In another vessel dissolve in—

Water	½ gal.
Chloride of Calcium.	½ oz.

This is sufficient to deresinise 1½ gallons of extract. Example:

Suppose we desire to operate upon a gallon of strong ginger tincture.

As it is very resinous it will require to be diluted with at least an equal bulk of water before its resin is reduced to a state of suspension.

We therefore dissolve, say, 320 grains of chloride of calcium in a few ounces of water, and about three times as much phosphate of soda in another portion of water. Now add to the tincture enough water to make up 1 gallon with the saline solutions, add the chloride of calcium solution to one portion of diluted tincture, and the phosphate of soda solution to the remainder. Agitate both mixtures thoroughly, and then stir them together. The tincture will now clear itself in a few hours, the whole of the resin being carried down with the newly formed phosphate of calcium. Of course the tincture will lose a portion of its strength by this process, besides being diluted to double its bulk, but there will be no subsequent loss arising from evaporation during filteration and we have a perfectly soluble tincture.

(No. 1) Ginger Tincture.

Best Jamica Ginger (unbleached, powdered and sifted)	3½ lbs.
Alcohol	3 qt.
Water	2 qt.
Chloride of Calcium, fused	160 gr.
Phosphate of Soda	480 gr.

Macerate the ginger with two quarts of spirit for at least 3 days; then place the mass in a deep percolator, and, when it is properly drained, add 1 quart of spirit. As soon as it ceases to drop, press the ginger close together and add carefully a quart of water, taking care not to disturb the surface of the ginger. This will produce about 3 quarts of tincture. To this add the remaining 1 quart of water, in 2 separate portions, with the chloride of calcium dissolved in one, and the phosphate of soda

in the other; observing to have the salt solution well mixed with the tincture, in separate portions, before bringing them together.

Compound Ginger Tincture.

Proceed exactly as in the formula for ginger, with the exception of using 3 pounds of ginger and ½ pound of capsicum pods, instead of ginger only.

Also if the flavor is required, 1 fluid ounce of oil of lemon may be shaken up with the tincture before adding the derezinizing salts.

Capsicum Tincture.

Proceed exactly as directed in first receipt, using capsicum pods instead of ginger.

Ginger Ale.

Plain Syrup	1 gal.
Ginger or Compound Ginger Tincture	4 Fl. oz.
Citric Acid Solution	4 Fl. oz.
Sugar Color	½ Fl. oz.

Use 1 ounce to 8 ounce bottle.

Soluble Lemon Tincture From the Oil.

Oil of Lemon	8 Fl. oz.
Alcohol 95 per cent	120 Fl. oz.
Water	80 Fl. oz.
Calcium Chloride (fused)	¼ Av. oz.
Sodium Phosphate	¾ Av. oz.
Dissolve the oil in the Alcohol	(Sol. 1)
Dissolve the Soda in ¾ of the Water	(Sol. 2)
Dissolve the Capsicum Salt in ¼ of the Water	(Sol. 3)

Mix well solutions 1 and 2; then add solution 3; shake the mixture quickly; let stand for an hour and then filter bright.

Use 3 ounces of this tincture to 1 gallon of syrup.

Lemon Soda.

Plain Syrup	1 gal.
Lemon Tincture	3 Fl. oz.
Citric Acid Solution	2 Fl. oz.

Use 1 to 1½ ounces to each 8 ounce bottle.

Quinine Tonic.

Plain Syrup	1 gal.
Lemon Tincture	4 Fl. oz.
Citric Acid Solution	4 Fl. oz.
Sulphate of Quinine	107 gr.

Dissolve the quinine in the acid solution before mixing with the other ingredients.

Use 1½ fluid ounces of this syrup to each bottle.

This will give 1 grain of quinine to each bottle.

Ginger Beer.

Syrup	1 gal.
Tincture of Ginger	4 Fl. oz.
Lemon Tincture	3 Fl. oz.
Citric Acid Solution	4 Fl. oz.
Sugar Color	¼ Fl. oz.

Foam to suit.

Use 1 to 1½ ounces to each 8 ounce bottle.

As a closing to this book, I have deemed it advisable to reprint a portion of Circular 19, on standards of purity for food products, issued by the Department of Agriculture at Washington, which defines the various extracts and specifies the legal requirements for each under the Food and Drug Act of June 30, 1906.

Bear in mind the flavoring extracts herein mentioned are intended solely for food purposes and should not be confounded with similar preparations described in the Pharmacopoeia for medicinal purposes.

FLAVORS.

1. A flavoring extract is a solution in ethyl alcohol of proper strength of the sapid and odorous principles derived from an aromatic plant, or parts of the plant, with or without its coloring matter, and conforms in name to the plant used in its preparation.

2. Almond extract is the flavoring extract prepared from oil of bitter almonds, free from hydrocyanic acid, and contains not less than (1) per cent by volume of oil of bitter almonds.

3. Anise extract is the flavoring extract prepared from oil of anise and contains not less than (3) per cent by volume of oil of anise.

4. Celery seed extract is the flavoring extract prepared from celery seed or the oil of celery seed, or both, and contains not less than three-tenths (0.3) per cent by volume of oil of celery seed.

5. Cassia extract is the flavoring extract prepared from oil of cassia and contains not less than (2) per cent by volume of oil of cassia.

6. Cinnamon extract is the flavoring extract prepared from oil of cinnamon, and contains not less than two (2) per cent by volume of oil of cinnamon.

7. Clove extract is the flavoring extract prepared from oil of cloves, and contains not less than two (2) per cent by volume of oil of cloves.

8. Ginger extract is the flavoring extract prepared from ginger and contains in each one hundred (100) cubic centimeters, the alcohol-soluble matters from not less than (20) grams of ginger.

9. Lemon extract is the flavoring extract prepared from the oil of lemon, or from lemon peel, or both, and contains not less than five (5) per cent by volume of oil of lemon.

10. Terpeneless extract of lemon is the flavoring extract prepared by shaking oil of lemon with dilute alco-

hol, or by dissolving terpeneless oil of lemon in dilute alcohol, and contains not less than two-tenths (0.2) per cent by weight of citral derived from oil of lemon.

11. Nutmeg extract is the flavoring extract prepared from oil of nutmeg, and contains not less than two (2) per cent by volume of oil of nutmeg.

12. Orange extract is the flavoring extract prepared from oil of orange, or from orange peel, or both, and contains not less than five (5) per cent by volume of oil of orange.

13. Terpeneless extract of orange is the flavoring extract of orange prepared by shaking oil of orange with dilute alcohol, or by dissolving terpeneless oil of orange in dilute alcohol, and corresponds in flavoring strength to orange extract.

14. Peppermint extract is the flavoring extract prepared from oil of peppermint, or from peppermint, or both, and contains not less than three (3) per cent by volume of oil of peppermint.

15. Rose extract is the flavoring extract prepared from otto of roses, with or without red rose petals, and contains not less than four-tenths (0.4) per cent by volume of otto of roses.

16. Savory extract is the flavoring extract prepared from oil of savory, or from savory, or both, and contains not less than thirty-five hundredths (0.35) per cent by volume of oil of savory.

17. Spearmint extract is the flavoring extract prepared from oil of spearmint, or spearmint, or both, and contains not less than three (3) per cent by volume of oil of spearmint.

18. Star Anise extract is the flavoring extract prepared from the oil of star anise, and contains not less than three (3) per cent by volume of oil of star anise.

19. Sweet basil extract is the flavoring extract pre-

pared from the oil of sweet basil, or from basil, or both, and contains not less than one-tenth (0.1) per cent by volume of oil of sweet basil.

20. Sweet marjoram extract, marjoram extract, is the flavoring extract prepared from the oil of marjoram, or from marjoram, or both, and contains not less than one (1) per cent by volume of oil of marjoram.

21. Thyme extract is the flavoring extract prepared from oil of thyme or from thyme, or both, and contains not less than two-tenths (0.2) per cent by volume of oil of thyme.

22. Tonka extract is the flavoring extract prepared from tonka bean, with or without sugar or glycerin, and contains not less than one-tenth (0.1) per cent by weight of coumarin extracted from the tonka bean, together with a corresponding proportion of other soluble matters thereof.

23. Vanilla extract is the flavoring extract from vanilla bean, with or without sugar or glycerin, and contains in one hundred (100) cubic centimeters the soluble matters from not less than (10) grams of the vanilla bean.

24. Wintergreen extract is the flavoring extract prepared from oil of wintergreen, and contains not less than three (3) per cent by volume of oil of wintergreen.

THE COST.

Of oils, ethers and other ingredients. Furnished to demonstrate the cost of preparing the extracts, etc. Subject to market changes.

Oils.

Oil of Allspice	per lb.	$2.00
Oil of Almonds Bitter, Artificial	per lb.	1.00
Oil of Almonds Bitter, French	per lb.	5.00
Oil of Anise	per lb.	2.50

Oil of Bay	per lb.	4.75
Oil of Bergamot	per lb.	3.25
Oil of Citral	per lb.	3.50
Oil of Geranium, Turkish	per lb.	2.50
Oil of Geranium, Re-distilled	per lb.	3.50
Oil of Geranium, Rose	per lb.	6.75
Oil of Ginger	per lb.	6.00
Oil of Lemon (original coppers of 25 lbs.)	per lb.	1.00
Oil of Lemon, as wanted	per lb.	1.30
Oil of Neroli	per oz.	4.00
Oil of Orange, Sweet	per lb.	2.50
Oil of Orange, Bitter	per lb.	3.00
Oil of Rose	per oz.	8.00
Oil of Sassafras, pure	per lb.	.65
Oil of Wintergreen, Natural	per lb.	1.75
Oil of Wintergreen, Artificial	per lb.	.75

Ethers.

Ether Acetic	per lb.	$0.60
Ether Benzoic	per oz.	.25
Ether Butyric	per lb.	1.75
Ether Chloric	per lb.	.60
Ether Formic	per lb.	1.50
Ether Nitrous	per lb.	1.00
Ether Oenanthic	per oz.	5.00
Ether Oxalic	per oz,	.40
Ether Salycilate	per oz.	.80
Ether Sebacic	per oz.	.75
Ether Velerianic	per oz.	.30
Ether Amyl Acetate	per gal.	4.50
Ether Amyl Butyrate	per gal.	9.00
Ether Amyl Valerianate	per gal.	12.00
Ether Methyl Salicylate	per lb.	1.50

Chemicals.

	Per lb.
Citric Acid (Crystals) in kegs of 100 lbs	$0.37
Citric Acid (Crystals) in less than keg lots.	.40
Tartaric Acid (Crystals) in bbls, of 300 lbs	.31
Tartaric Acid (Crystals) in less that bbl. lts	.36
Magnesia Carbonate in 4 oz. papers	.20

	Per lb.
Bi-Carbonate of Soda, in kegs	.03
Bi-Carbonate of Soda in less than keg lots.	.05
Sal Soda in 100 lb. lots	.90
Powdered Pumice Stone	.05
Glycerine, C. P	.18½
Alum	.07

Sundries.

Orange Flower Water, in 7 gallon coppers	per copper	$7.50
Orange Flower Water	per gallon	1.50
Orris Root, Florentine, gran., per lb		.29
Ajonc	per oz.	2.50
Mouessin	per lb.	....
Filtering Paper, No. 33	per 100	.60
Filtering Paper, No. 50	per 100	1.00
Filtering Paper, No. 80	per 100	3.50
Glass Funnels	1 gal.	.60
Glass Funnels	½ gal.	.40
Glass Percolators	1 gal.	60
Glass Percolators	2 gal.	1.25
Glass Percolators	3 gal.	2.00
Wedgewood Mortars, with pestles, 6 inches across the top		1.50
Wedgewood Mortars, with pestles, 12 inches across the top		2.00

WILLIAM GEE'S TABLE OF DROPS.

The following table will be found of use in flavoring syrups:

1 drop of extract to an ounce of syrup is equal to 2 drams and 5 drops to a gallon. ¼

2 drops of extract to an ounce of syrup is equal to 4½ drams to a gallon.

3 drops of extract to an ounce of syrup is equal to $6\frac{1}{2}$ drams to a gallon.

4 drops of extract to an ounce of syrup is equal to 1 ounce and 1 dram to a gallon.

5 drops of extract to an ounce of syrup is equal to 1 ounce and $3\frac{1}{8}$ drams to a gallon.

6 drops of extract to an ounce of syrup is equal to 1 ounce and $5\frac{1}{2}$ drams to a gallon.

7 drops of extract to an ounce of syrup is equal to 2 ounces to a gallon.

8 drops of extract to an ounce of syrup is equal to 2 ounces and $2\frac{1}{2}$ drams to a gallon.

9 drops of extract to an ounce of syrup is equal to 2 ounces and $4\frac{1}{2}$ drams to a gallon.

10 drops of extract to an ounce of syrup is equal to 2 ounces and $6\frac{3}{4}$ drams to a gallon.

12 drops of extract to an ounce of syrup is equal to 3 ounces and $3\frac{1}{4}$ drams to a gallon.

14 drops of extract to an ounce of syrup is equal to 4 ounces to a gallon.

16 drops of extract to an ounce of syrup is equal to 4 ounces and $4\frac{1}{8}$ drams to a gallon.

18 drops of extract to an ounce of syrup is equal to 5 ounces and 1 dram to a gallon.

There are 450 drops to an ounce.

TABLE OF DENSITY OF SYRUP.

The following table shows the amount of syrup obtained by adding any number of pounds of sugar to one gallon of water. This table is accurate only for syrup made by cold process, as where heat is used a certain amount of water is lost by evaporation. It is based upon the established fact that one pound of sugar displaces ten American fluid ounces of water.

Simple Syrups.

Quantity of Sugar Added to One Gallon of Cold Water	Quantity of Syrup Actually Obtained			Percentage of Sugar Contained in the Syrup	At the Temperature of 60 Degrees F.	
	Gals.	Pints	Oz.		Specific Gravity	Degrees Beaume
1 pound	1	--	10	10¾	1.043	6
2 pounds	1	1	4	19¼	1.080	11
3 "	1	1	14	26½	1.113	15½
4 "	1	2	8	32¾	1.142	18
5 "	1	3	2	37½	1.166	20½
6 "	1	3	12	41¾	1.188	23
7 "	1	4	6	45¾	1.209	25
8 "	1	5	--	49	1.227	26¾
9 "	1	5	10	52	1.244	28¼
10 "	1	6	4	54½	1.258	29½
11 "	1	6	14	57	1.271	30¾
12 "	1	7	8	59	1.284	32
13 "	2	0	2	61	1.296	33
14 "	2	0	12	62¾	1.306	33¾
15 "	2	1	6	69¼	1.135	34¼

Good Side Lines for Winter Trade

The winter season is rapidly nearing us, and where necessary those engaged in the bottling business, if they are wise, look around for something that will form, if not altogether a substitute for beverages, yet something seasonable that will keep the works going, and your help employed during the slack time.

To suggest a few instances: How many people buy and use baking powder, metal polishes, furniture polish, stove polish, liquid bluing, household ammonia, etc.?

These articles are easily prepared, indispensable in every household, and gladly handled by the grocery trade. Our booklet

"Bluing and Other Specialties"

TELLS YOU HOW TO MAKE

Price $1.00

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